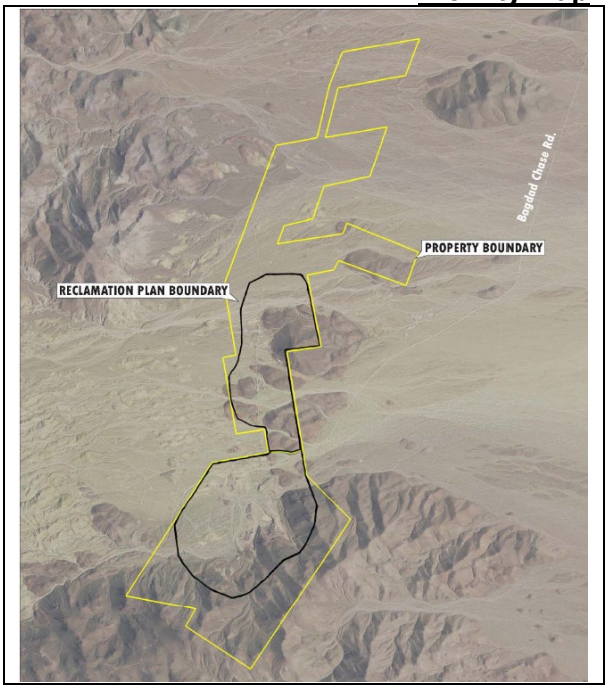
LAND USE SERVICES DEPARTMENT
PLANNING COMMISSION STAFF REPORT

HEARING DATE: April 6, 2023 **AGENDA ITEM #2**

Project Description

APNs: 0551-181-03 through 13, 0551-191-15, 16, 17, 24, and 25
Applicant: The Bagdad Chase Mining Company
Location: Private lands in portions of Sections 4, 5, and 8, Township 6 North, Range 8 East and Section 32 in Township 7 North, Range 8 east, San Bernardino Base and Meridian
Project No: MRP-2021-00002
Staff: Steven Valdez
Rep: Frank Amendola, Lilburn Corporation
Proposal: Proposed Mining Reclamation Plan (23m-01) for the vested and historic Bagdad Chase Gold Mine, consisting of extraction of precious metals, ore and aggregate materials for a period of 30 years, including the approval of a Water Supply Assessment.

Vicinity Map



6 Hearing Notices Sent on: March 22, 2023
Report Prepared By: Steven Valdez, Planner

SITE INFORMATION:
Project Size: 511.75 acres
Terrain: Vacant, rugged mountainous desert lands
Vegetation: Creosote Bush Scrub

SITE AND SURROUNDING LAND USES AND ZONING:

AREA	EXISTING LAND USE	LAND USE CATEGORY	ZONING DISTRICT
SITE	Open Space/Quarry	Open Space (OS)	Resource Conservation (RC)
North	Open Space	Open Space (OS)	Resource Conservation (RC)
South	Open Space	Open Space (OS)	Resource Conservation (RC)
East	Open Space	Open Space (OS)	Resource Conservation (RC)
West	Open Space	Open Space (OS)	Resource Conservation (RC)

STAFF RECOMMENDATION: THAT THE PLANNING COMMISSION **ADOPT** THE MITIGATED NEGATIVE DECLARATION, **APPROVE** THE WATER SUPPLY ASSESSMENT, **ADOPT** THE RECOMMENDED FINDINGS, **APPROVE** THE MINING RECLAMATION PLAN 23M-01, AND **DIRECT** STAFF TO FILE THE NOTICE OF DETERMINATION. [1]

[1.] In accordance with Section 86.08.010 of the Development Code, the Planning Commission action may be appealed to the Board of Supervisors.

Figure 1 – Regional Location Map
Bagdad Chase Mine

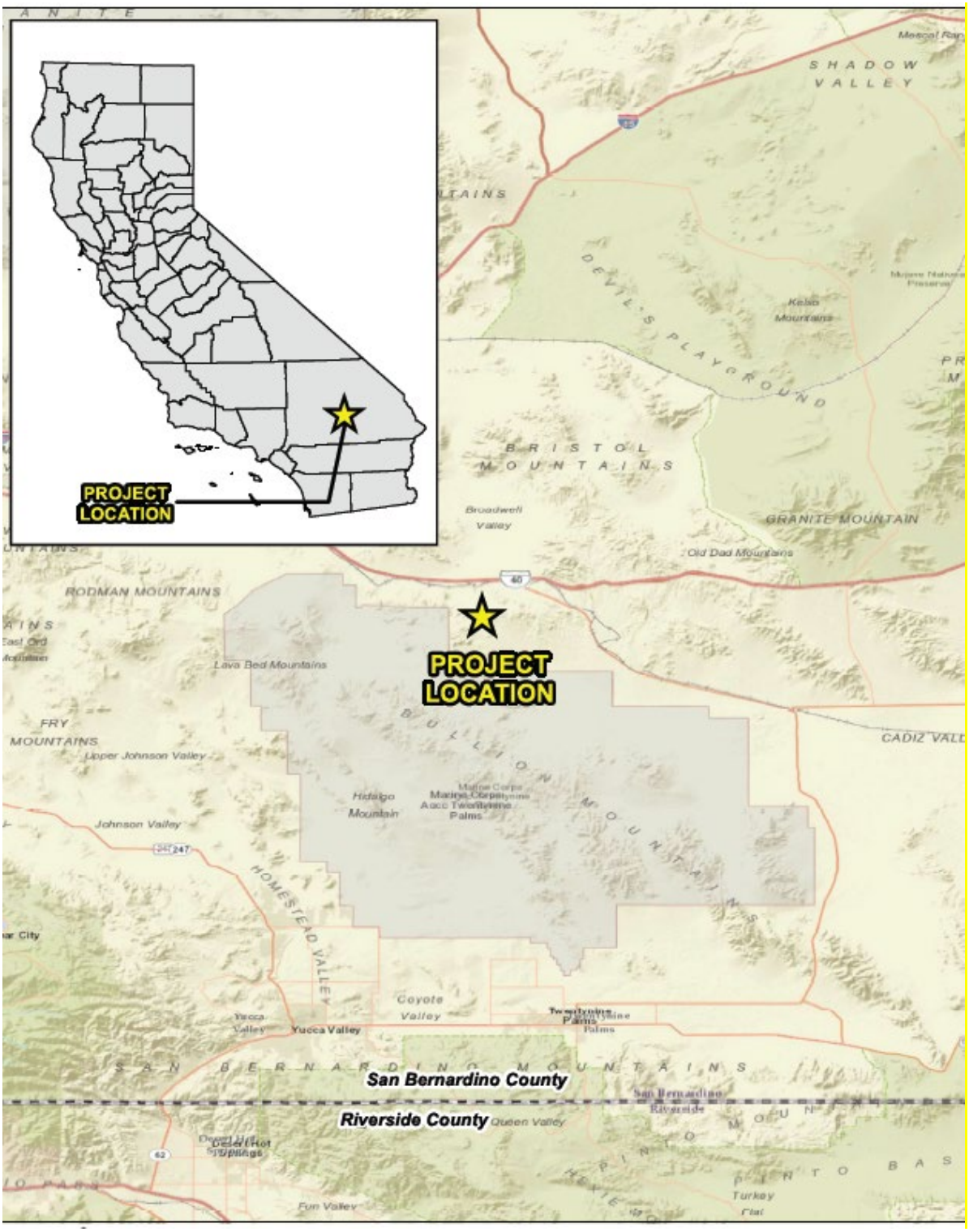


Figure 2 – Project Vicinity Map
Bagdad Chase Mine

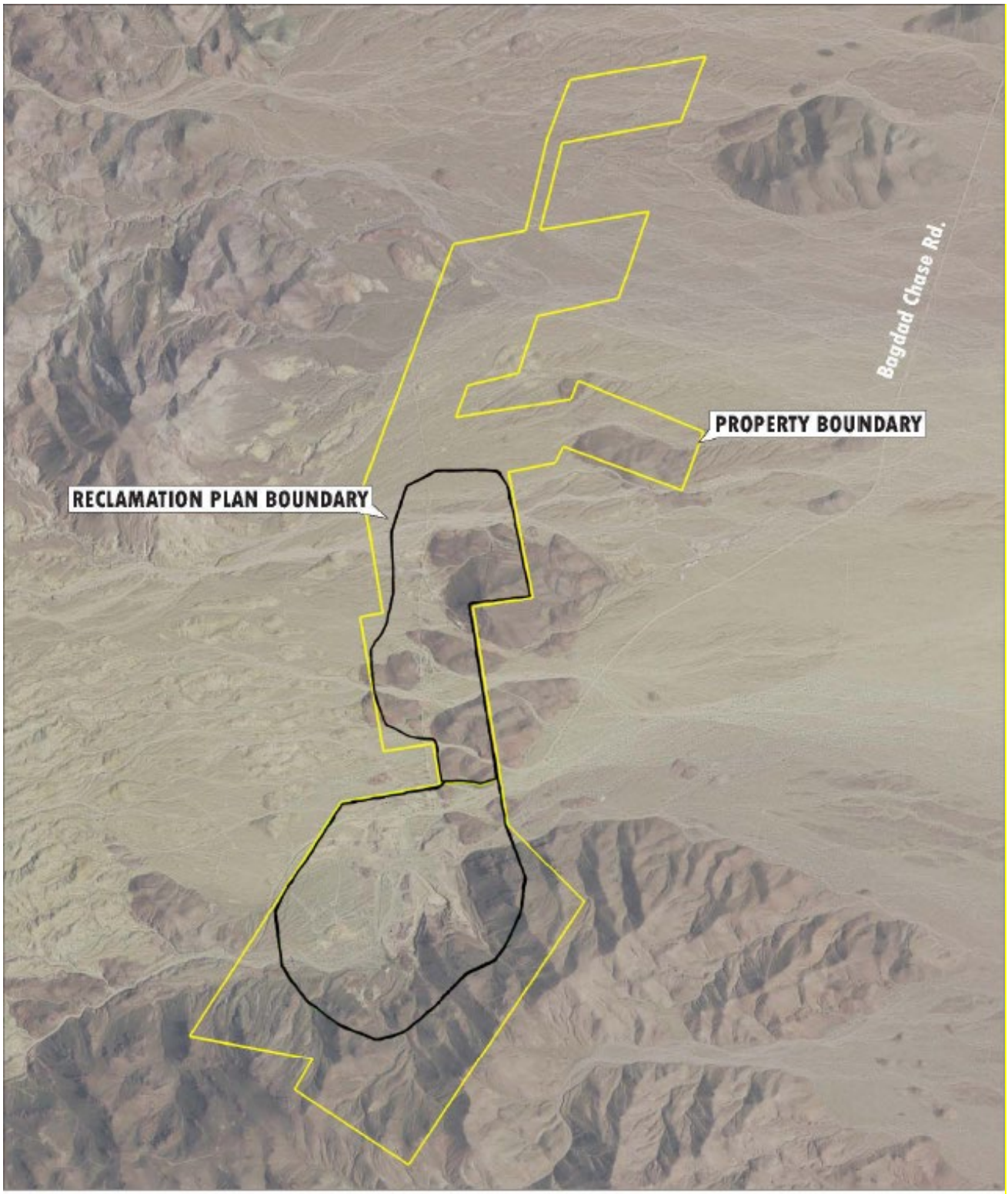


Figure 3 – Bagdad Chase Mine Plan

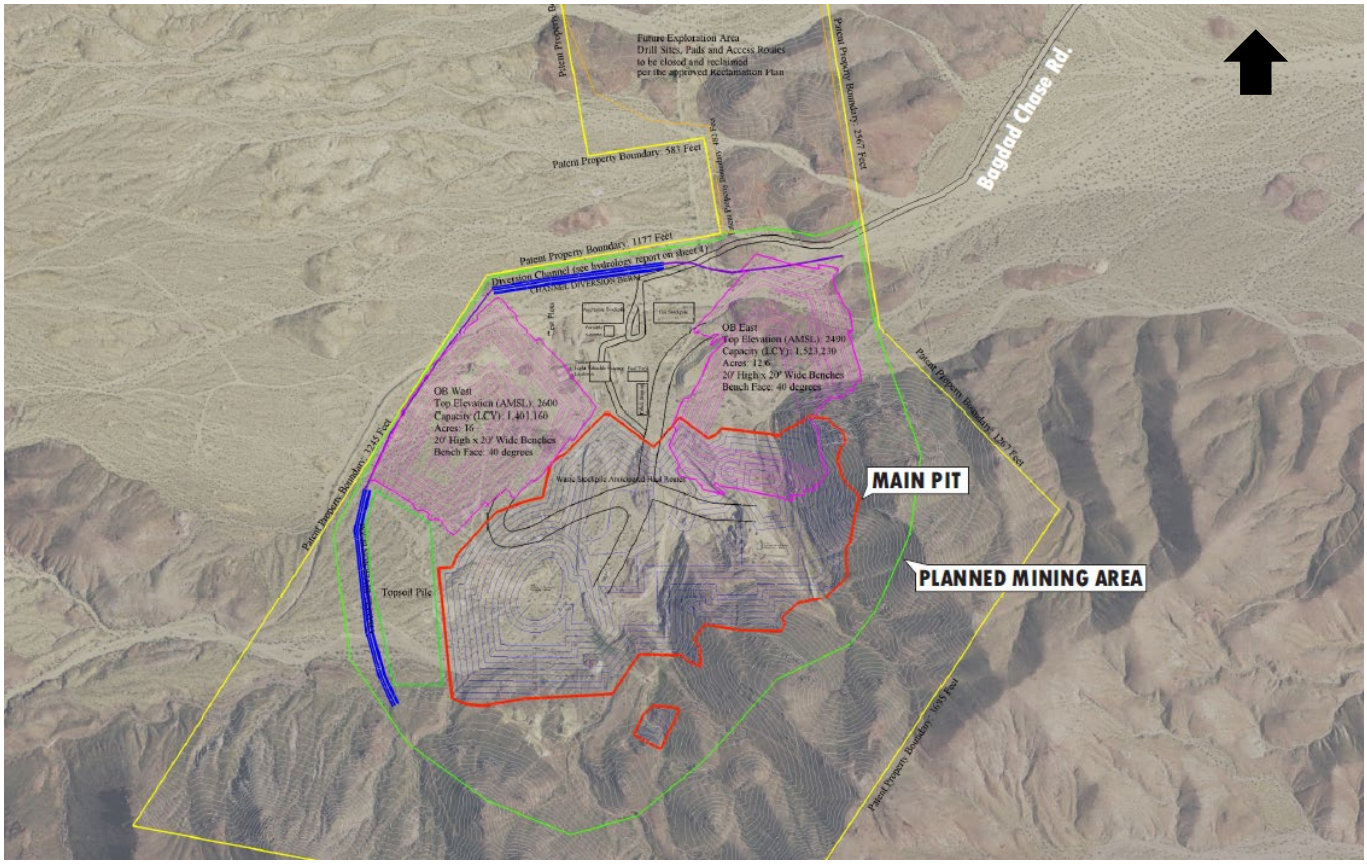


Figure 4 –Bagdad Chase Mine Reclamation Plan

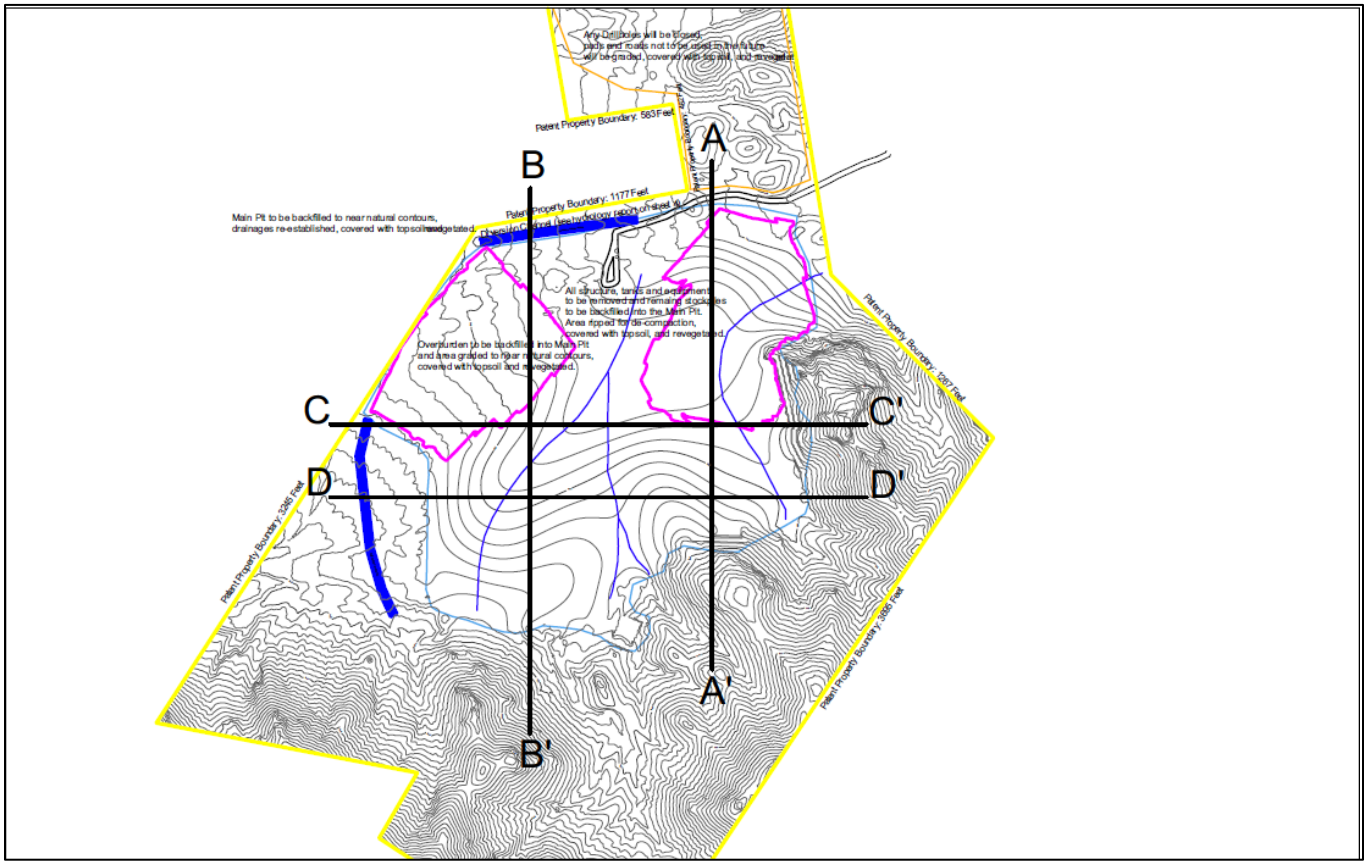


Figure 5 – Bagdad Chase Mine Cross Section

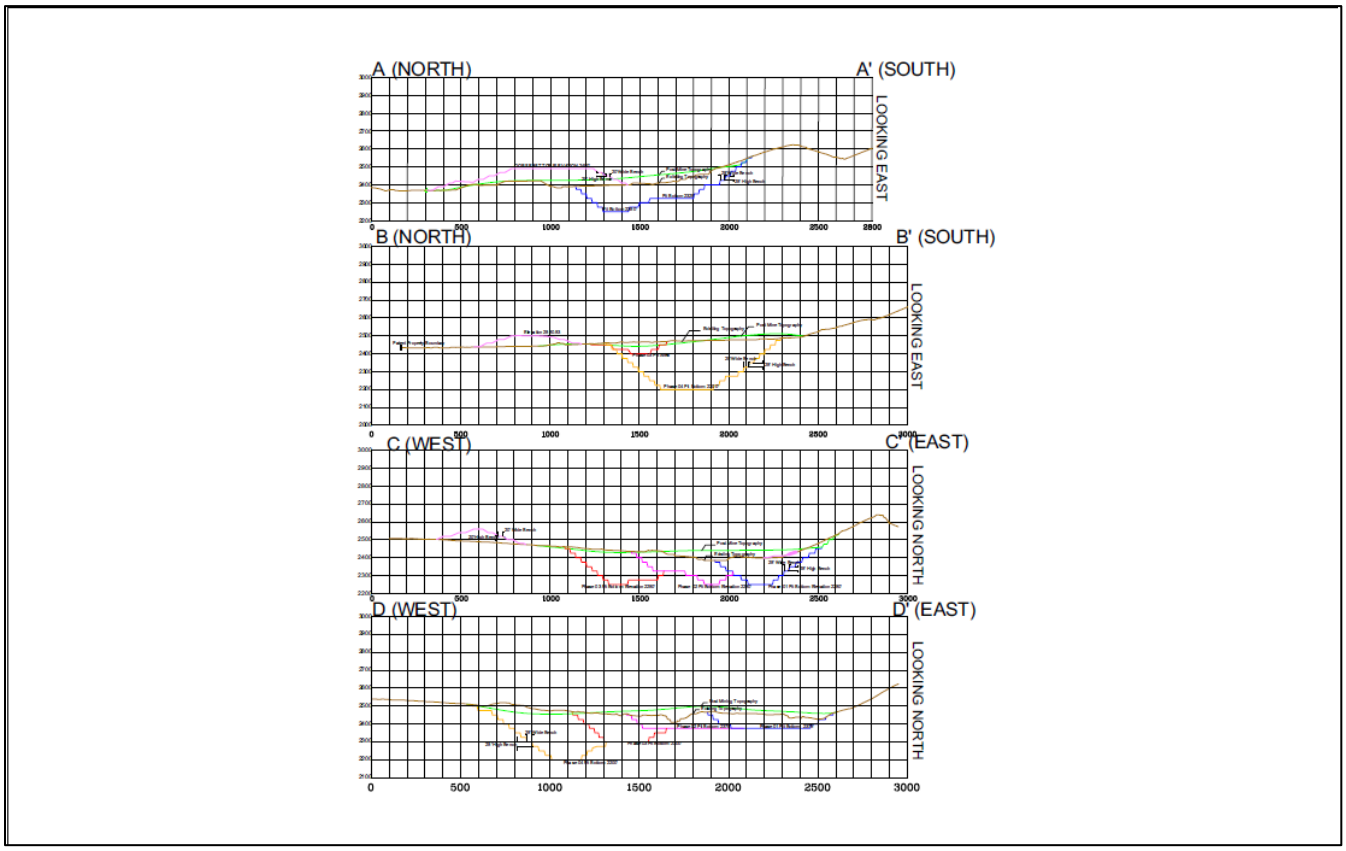


Figure 6 – Bagdad Chase Gold Mine

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Photograph 11: Looking northeast across a historic mining pit in the middle portion of the project site.

Photograph 12: Looking southeast across a historic mining pit.

PROJECT DESCRIPTION:

The applicant, Bagdad Chase Mining Company LLC (Bagdad Chase), submitted a Reclamation Plan application for the Bagdad Chase Mine consisting of mining and exploration activities on approximately 244 acres within 511.75 acres of private lands (Project). The Bagdad Chase Mine has been explored and mined intermittently since the late 1800s and is located on private lands owned by Bagdad Chase. It was a major gold source in San Bernardino County (County) in the period from 1903 to 1953 with an estimated 340,000 ounces of gold produced.

Project Mining Background

A Certificate of Land Use Compliance (Certificate) and a Letter of Conditional Approval to certify the operation as a vested right for mineral resource development was issued by the County in July of 2011. This vested right is consistent with the vested right definition in the Surface Mining and Reclamation Act of 1975 ("SMARA", Cal. Public Resources Code Section 2776). In addition, along with its long history of mining and mineral exploration, a Reclamation Plan (84M-022) was approved by the County for the mine in 1984 demonstrating recognition of the surface and underground mineral resource development activities as an existing vested right.

The Certificate stated, "Mineral resource development to the fullest extent at the subject properties shall not require a mining Conditional Use Permit approval under the County's Development Code, as the pre-existing use was a permitted use by right, enacted at the time the subject properties underwent development and subsequent approval by the County (Reclamation Plan 84M-022 dated May 30, 1984(Now Expired)."

While recognition of the mine's vested rights allows mineral resource development onsite, a Reclamation Plan must be submitted and approved by the County per Chapter 88.03 of the Development Code and SMARA.

Proposed Plan

Bagdad Chase is proposing to recommence operations at the historic gold mine. The proposed mining and exploration activities will consist of approximately 244 acres within 511.75 acres of private lands. Bagdad Chase also holds unpatented mining claims on approximately 4,000 acres surrounding the private lands.

Bagdad Chase plans on excavating the former mining area defined as the Main Pit (47 acres) to extract precious metal ore. The run-of-mill ore will be crushed in-pit, graded, and then crushed, screened, separated, and concentrated in a ball mill and concentrator onsite, then transported in super-sacks to an offsite refinery. No chemicals use or leaching of gold ore will be conducted onsite. The mine and reclamation plan boundary is on privately held lands totaling approximately 511.75 acres with a mining and exploratory disturbance area to be reclaimed consisting of approximately 244 acres. Approximately 53 acres are disturbed from past mining and exploration activities. In addition, aggregate and decorative rock will be produced from non-ore bearing rock or overburden based on demand. Bagdad Chase is planning an operational period of 30 years followed by five years of reclamation with revegetation monitoring continuing until success criteria achieved. The overall reclamation plan will be 35 years.

Mining Operation:

The Bagdad Chase Mine as noted will consist of a 47-acre Main Pit with two overburden stockpiles of 28.5 acres. The mine is estimated to contain approximately 8 million cubic yards or 19.5 million short tons (2.43 short tons/cubic yard) of ore and rock (overburden). For start-up years one to four, the site will be mined at an average rate of 800,000 tons annually; approximately 50,000 tpy of ore, 250,000 tpy of aggregate/rock, and 500,000 tpy of overburden. Substantially less overburden is expected in the initial year or two as mining will remove existing and near surface ore previously stockpiled and exposed.

For years five to 20, excavations are planned at an average rate of approximately 1,020,000 tpy; approximately 100,000 tpy of ore, 250,000 tpy of aggregate/rock, and 670,000 tpy of overburden. Bagdad Chase is planning a 30-year operating plan due to variations in ore quality, ore volumes, economic conditions, and overall annual production. Therefore, Bagdad Chase is requesting a 35-year reclamation plan.

The Reclamation Plan (Exhibit A) proposes to initiate mining within the existing Main Pit and previous underground mining area creating an oval-shaped pit to an average depth of 250 feet. The pit depth will be deepened from about 2,500 feet amsl on the hillside to the east to a floor depth of approximately 2,125 feet amsl. A total of about 19.5M tons will be excavated with estimated 1.8M tons of ore. Overburden will initially be placed in the East Overburden Stockpile. As mining progresses west, overburden will be placed in the West Overburden Stockpile. As soon as feasible, overburden will be placed back into a completed section of the east pit concurrent with mining. Eventually, mining will be conducted under the East Overburden Stockpile and overburden in both stockpiles will be used to backfill the Main Pit in accordance with SMARA regulations.

Slope Stability:

The *Slope Stability Evaluation Report* prepared by Terracon, May 2021, calculated slope stability for feasibility of reclamation rock slope configurations and kinematic analysis of potential failure geometries in rock benches were performed for the Main Pit areas.

Geological structural features evident in the Main Pit are instructive as to the types and orientations of discontinuities that could be present in final highwall cuts. The potential hazard of slope failure associated with these features is expected to be greatly reduced and mitigated under the proposed reclamation/benching/backfilling program. The rock mass within the pit area is generally competent and capable of forming stable slopes at the proposed slope angles for reclamation. The rock structure includes blocky fabric formed by joint systems that have been characterized by analysis to yield suitably stable rock slopes. Localized structures at the bench scale may form zones that require scaling and/or excavation to flatten or steepen face angles to achieve suitable reclamation conditions.

Based on the geologic field observations and results of the slope stability analysis, Terracon determined that slope configurations analyzed for the worst-case scenario are feasible with respect to slope stability from a geotechnical standpoint. Sufficient static factors of safety (FS) in excess of 1.5 and seismic (pseudo-static) factors of safety at or greater than 1.1, which are in

conformance with Division of Mine Reclamation (DMR) criteria, were indicated for the modeled scenario rock slopes configurations. Slopes utilizing overall slope angles lower than 51 degrees have higher factors of safety by inference and are not calculated for this evaluation. Based on the arid site conditions and site geology, it is unlikely that a static water table exists at or above the proposed maximum depth of reclaimed pit bottom. Groundwater conditions during mining and at completion of mining (reclamation stage) may include water seepage and ponding of limited extent. Groundwater is not anticipated to significantly affect the stability of the proposed reclamation slopes.

Moderate to severe seismic shaking of the site can be expected to occur during the lifetime of the proposed mining and reclamation. This potential has been considered in our analyses and evaluation of slope stability. Terracon recommended the following design/monitoring measures during operations and reclamation which have been included in the slope assessment:

- Inclusion of horizontal safety benches in final slope design if not backfilled which will be an effective protection from rockfall, reduces tensional forces in surface rock, and reduces surface erosion rates.
- Pit rims will be protected with berms as necessary to prevent slope erosion in areas where overland flow is toward slopes and also for public safety.
- Overall final cut slopes in the rock materials shall be no steeper than the slopes designed in the Excavation Plan (note that the Main Pit will be backfilled with overburden, but there may be some slopes remaining on the east side).
- Localized structures at the bench scale may form zones that require scaling and/or excavation to flatten or steepen face angles to achieve suitable reclamation conditions. At such time and locations as reclamation slopes are excavated, a qualified Geotech professional should examine the slope conditions to determine conformance with the reclamation plan.
- Visual inspection and monitoring of mine benches and slope conditions for indications of potential instability and failure warning signs shall be implemented.
- Annual inspections of pit wall stability with respect to planar, toppling, wedge failures and rockfall hazards should be conducted as mining progresses. The intent of these inspections is to provide recommendations to prevent or remediate potentially hazardous conditions that may be revealed during mining. The kinematic condition associated with the interaction of faults/shear planes and individual walls, if exposed in reclamation slopes, should be examined during annual inspections.
- Final reclaimed overburden stockpile slopes if left in-place shall be no steeper than 2H:1V to the maximum proposed heights as shown on the Mine Reclamation Plan and surface drainage shall be conveyed away from slopes.

Dust Control:

Dust control measures must be in compliance with Mojave Desert Air Quality Management District (MDAQMD) Rules 401 (limiting visible emissions); 402 (avoid nuisance emissions to people or businesses or property); and 403 (prohibits visible dust from crossing property lines and controlling fugitive dust). The main dust control method is the water spraying of roads, operational mine areas, and active overburden stockpiles. A 4,000-gallon water truck would be used for dust control. Water for dust control will be obtained from private sources in the Ludlow

area (will serve letter from water supplier), which can be augmented by the operator's private well approximately 8 miles to the east, trucked in water from other sources, or a well that could be drilled onsite.

Haul roads and the Bagdad Chase Road will be improved with an 8-inch gravel base produced onsite to reduce dust and erosion. Bagdad Chase will also utilize magnesium chloride or other approved dust suppressant as recommended by the manufacturer to further reduce road dust. In addition, any portable crushing/screening plants occasionally used onsite by outside contractors will be required to be permitted by MDAQMD and to implement applicable dust control measures.

Employee Safety:

Approximately 15 employees are expected to work onsite. Active mining areas will comply with all federal (MSHA) and state (Cal-OSHA) mine safety regulations. Workers, including contractor labor, will be trained in mine safety and first aid. Access and haul roads will be designed with safety berms per MSHA requirements, the pit will have safety benches with berms, and inactive ramps and roads in mining areas will be blocked to prevent access. Prior to blasting activities, employees working in the area will be notified, and a visual search of the area is done prior to blasts to verify that no one is present in the area. Standard horn signals are used to notify personnel before and after blasts (all clear).

Site Access and Public Safety:

The site is accessed from I-15 to National Trails Highway as well as by two underpasses under the rail lines connecting via the unpaved Bagdad Chase Road utilized to access the area's mines and former small mining towns since the early 1900s. This road is shown on County Assessor Parcel Maps and all USGS topographic maps from the past to present. Currently the northern 0.6 miles of the road is utilized by a communications site and the northern 3 miles are also used for access to a west to east utility corridor.

For gold operations, daily traffic would only be about one or two flatbed trucks transporting supersacks of concentrated ore to offsite refineries and one or two maintenance fuel trucks. Up to ten 4 to 5,000-gallon water trucks and 15 employees vehicles can access using the underpasses. Roads will be graded and improved with a 6 to 8-inch gravel road base which will be sourced from the Bagdad Chase mine.

Mine areas will have warning signs every 500 feet, dirt roads not used will be blocked or closed, and safety berms six feet in height will be constructed along the pit rims where the public could access. Any unauthorized roads will be blocked or closed permanently at the property boundary

Mine Waste:

Overburden material is estimated to be approximately about 12.7 million short tons over the life of the plan. During the initial 1 to 4 years, overburden production will be limited due to the removal of stockpiled and exposed ore currently onsite. Overburden will be stored temporarily in two stockpiles; the East and West overburden stockpiles. The stockpiles will have slopes of 2H:1V during operations and all overburden will be used to backfill the pit concurrently as feasible with

backfilling completed during final reclamation. It's important to note that during the initial clearing of the pit areas, the top 0.5 feet or more of growth media "topsoil" (mostly alluvium) will be pushed and hauled to the southwest side of the West Overburden Stockpile and along the north and west sides of the East Overburden Stockpile where it will be stored until final reclamation. The "topsoil" stockpiles will be clearly marked and covered with larger material to limit wind and water erosion.

East Overburden Stockpile:

Overburden stockpile for the Main Pit with an area of 12.5 acres (will extend into Main Pit footprint at times) and a maximum height of about 125 feet above the surface (approximately 2,550 feet amsl). As mining progresses westward across and is completed in the east side of the Main Pit, overburden from new mining and from this stockpile will be backfilled into the pit until it is exhausted and compacted by equipment rollover.

West Overburden Stockpile:

Overburden stockpile for the Main Pit with an area of 16 acres and a maximum height of about 100 feet above the surface (approximately 2,550 feet amsl). As mining progresses westward across and is completed in the west side of the Main Pit, overburden from this stockpile will be backfilled into the pit until exhausted and compacted by equipment rollover. Any material separated for use as aggregate or decorative rock that remain after termination of operations, will be backfilled and graded into the Main Pit area.

Ore Processing:

Ore will be crushed and blended by a tracked primary crusher in the pit and then will be hauled to the onsite processing plant. This stockpiled material will then be loaded into the secondary cone crusher/screening plant by a wheel loader. Once through the secondary crusher, the ore will be sent to the ball mill and crushed to -50 mesh. Crushed material will be sent through a Falcon concentrator to then be bagged into super sacks. Super Sacks of approximately 1.5 tons will be loaded onto flatbed trailers (approximately one flatbed truck/day) to then be transported by truck to an offsite refinery. No chemicals will be used or leaching will take place onsite... Bagdad Chase conducted various tests on the ore in addition to previous testing conducted in the 1980s. The Bagdad Chase Mine owners will find another alternative to cyanide extraction. Through testing, they have determined that non-toxic gravitational and flotation concentration has proven just as effective as cyanide extraction. Once material is concentrated, the material will be loaded into super sacs and loaded onto semi-trucks and transported to a refinery to be processed into gold bars.

Per specific contracts, some processing of aggregate and decorative rock may be undertaken onsite by an outside contractor. All portable processing plants used and/or brought onsite must be in compliance with MDAQMD rules and permits related to dust emissions.

Production Water:

Water for dust control will be obtained from private sources in the Ludlow area (will serve letter from water supplier) which can be augmented by the operator's private well approximately 8 miles

to the east, trucked in water from other sources, or a well that could be drilled onsite. A portable construction type water tank will be used onsite as needed.
Water will be applied to the working areas, roads, and material transfer points.

The estimated water usage is eight to ten truckloads or about 50,000 gallons/day; 39 acre-feet per year based on 250 operational days per year. Water used for dust control will evaporate and therefore, the project will not produce any run-off water.

Water Supply Assessment (WSA)

Water Code §10910 et seq. requires preparation of a WSA (Exhibit B) for a project that is subject to the California Environmental Quality Act (CEQA) and is considered a project as defined in Water Code §10912. The Project is subject to CEQA and may be considered a project requiring preparation of a WSA according to the following "project" definition stated within §10912: *"A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area."* The Project is subject to the conditions of California Water Code §10910 because it is subject to CEQA and meets the code's definition of a project.

The proposed additional groundwater pumping to support mining operations at the Bagdad Chase Mine will be sourced either from a new well (or wells) installed at the Property, or from existing wells located in Ludlow. Because the two proposed water sources are located in separate groundwater basins, the potential impact of the additional groundwater extraction is considered separately for each case.

The estimated water demand for mining operations is 40 afy (approximately 25 gpm). The total groundwater storage within the basin is unknown, however the estimated basin recharge and extraction rates provide a basis to estimate the potential impact of the proposed additional groundwater pumping from the basin. The additional pumping to meet the water demand of the mining operations is approximately 2% of the estimated average recharge to the groundwater basin. As noted above, this estimated value of 2% is likely conservatively high because it does not account for existing groundwater pumping that is occurring within the basin and indications that groundwater conditions are generally in equilibrium. As a proportion of the estimated current annual extraction volume for the basin (3,417 to 5,020 afy), the additional pumping to meet the expected water demand for the mining operations would be equivalent to an increase of 0.8 to 1.2%. The small proportions of the proposed new pumping for the mining relative to the estimated basin recharge and extraction rates, and the long-term stability of groundwater levels within the basin, indicate that the proposed volume of new groundwater production will have a negligible influence on the groundwater conditions in the basin.

The proposed groundwater production at the Property is not expected to impact current groundwater use within the basin due to the relatively small additional pumping as compared to estimates of both extraction and recharge, the long-term stability of groundwater levels in the basin, and the presence of groundwater just below the surface of Bristol Dry Lake. These conditions have persisted since mining operations began in the early 1900s, including through periods of up to three consecutive years without any precipitation.

Similarly, additional groundwater pumping from wells in Ludlow is not expected to impact current use or storage within Broadwell Valley Groundwater Basin. Conservative estimates of basin recharge and storage volumes indicate that the basin can support the proposed groundwater extraction, even under multiple dry year conditions, with the noted caveat that the calculations of storage and recharge may be inaccurate for fractured bedrock aquifers.

Evaluation of the hydrogeological conditions at the Property indicate that if sufficient groundwater is present in the alluvial deposits to meet the project demands, then multiple wells may be required to meet the desired production rate. Further investigation may identify more favorable conditions for groundwater production in fractured bedrock beneath the Property.

Blasting:

Blasting operations involve drilling along the mining face, placement of charges, and detonation of the charges by a blaster licensed through the Bureau of Alcohol, Tobacco, Firearms, and Explosives (BATF&E) for handling explosive materials. The transporting, handling, storage, and use of explosive materials, blasting agents, and blasting equipment shall be directed and supervised by a qualified blasting contractor. The blasting contractor and the explosive delivery company must be licensed in accordance with all Federal, State, and local agencies and regulations, U.S. Department of Transportation hazardous materials (HAZMAT) Certificate of Registration, California HAZMAT Transportation License, hold a general liability insurance policy for explosive transportation, and be permitted under the San Bernardino County Fire Department pursuant to Uniform Fire Code adopted by the Department. All blasters shall possess a current blasting license issued by CAL-OSHA and be experienced in mine blasting and hold applicable insurance. The blasting contractor's employees must be trained in accordance with CAL-OSHA and MSHA requirements and possess certification of such training.

Blasting shall only be conducted by a licensed blaster under the Office of Surface Mining (OSM) Blasting Performance standards (30 CFR Section 816.61-68). A blast design is required if conducted within 1,000 feet of any building used as a dwelling, public building, school, church, or community or institutional building outside the permit area and pre-blasting surveys are required for all residents or owners of dwellings or other structures located within 1/2 mile of the permit area (30 CFR Section 816.61-62). No such dwellings or residents exist within these distances to blasting operations.

Drilling will be conducted 5 days a week, 8 hours/day on about 200 days per year with depths of approximately 30 feet. Blasting will be conducted approximately 5 times per month or 60 times per year. Blasting activities will take place between the hours of 10:00 a.m. and 4:00 p.m. on weekdays (Monday through Friday). No blasting shall be allowed after dark. It is also important that basic safety requirements are practiced during blasting for onsite employees, equipment, and structures. A number of safety measures specific to the Project Site will be required including removal of unstable boulders, stabilizing boulders, limiting the amount of explosive used in blasting, inspecting the site prior to blasting, posting lookouts and use of warning signals.

The blasting agents will be ammonium nitrate and fuel oil (ANFO). No explosives will be stored onsite.

Reclamation:

Bagdad Chase proposes to reclaim the site to meet SMARA requirements implemented by the County that will minimize impacts to the surrounding environment and provide public safety. The objectives of this Reclamation Plan are to:

- Reduce environmental impacts from mining operations;
- Reclaim to a usable condition for post-mining end uses which will include open space/habitat;
- Backfill pit with available overburden and revegetate disturbed areas to return biological productivity and to minimize aesthetic impacts;
- Reclaim the site as necessary to eliminate hazards to public health and safety. Because of the phased nature of the mining development, reclamation concurrent with mining only can occur to a limited degree for safety and logistical reasons. Concurrent reclamation starts with the initiation of mining and development of new mine areas, roads or new overburden stockpiles and includes the following:
    - Pre-development plant surveys to mark specific plants and cacti for salvaging;
    - Salvaging seeds and re-locatable plants and cuttings for re-planting to available reclamation areas during clearing of areas to be developed;
    - Stockpile available surface material for future revegetation in separate identified stockpiles seeded with an erosion control ground cover, water sprayed to create a crust, and/or covered with a larger rock material to limit wind and water erosion;
    - Using a portion of the mine pit footprint for overburden placement;
    - During operations, sloping and grading of mine and stockpile slopes for safety, slope stability, and erosion control;
    - Backfill the Main Pit in a phased manner during operations with available overburden and complete backfill after termination of mining; overburden stockpiles will be completely removed. All waste rock extracted from the east side of the Main Pit will be sent to the West Overburden stockpile to make adequate room for backfill inventory. Once the pit has been excavated to its final depth in an east to west direction, final backfill inventory will be made available for backfill while still providing a safe working condition. The backfill process will avoid rehandle and expedite the reclamation process. A model has already been designed with computer modeling to take into account the ore and aggregate removed, material swelling, and compaction. The post mining topography (PMT) is designed to blend reclaimed surfaces into adjacent undisturbed lands; control reclamation costs by using available overburden materials (optimize cut/fill balance); utilize salvaged soils for soil cover adequate to support revegetation; create a stable fill taking into account swelling and compaction; and reestablish drainage channels. The PMT will be a guide and reference during the concurrent backfilling in the pit. The reason for this is to promote dump efficiency as well as decreasing the time that disturbed areas will go from mining into final reclamation. Once material is dumped close to the PMT design a dozer will then push and regrade the ground, promoting compaction and laying a firm base to help support the topsoil that will be laid on top of the reclaimed material. This methodology will avoid the straight hauling of material to waste stockpiles and help ensure that efficient and effective satisfaction of the requirements of SMARA to re-establish post mining topography.
    - Ripping of compacted areas and roads to be reclaimed prior to revegetation;

  - Covering disturbed areas with salvaged soil and alluvium overburden to aid in revegetation;
  - Revegetation – imprinting seeds and broadcast seeding followed by covering seed with layer of soil or alluvium by pulling chains or screens over the broad cast seeded area; and
- Any future on-site wells will be closed in accordance with the California Department of Water Resources Bulletin 74-91 as revised in 1988 or the latest revision and with the San Bernardino County Department of Environmental Health (DEHS) regulations unless deemed at that time to be useful for continued use or monitoring.
  - Upon completion of mining, remaining equipment, any structures, and internal roads not needed for site access will be reclaimed, and
  - Monitoring and remediation until success criteria achieved.

The development of the mine and timing for reclamation are linked to operational parameters, product demand, and phased operations. Mining operations experience unscheduled development changes due to market/economic demands and variation in ore. The County will be updated in the annual monitoring report on the status of operational and reclamation timing.

Reclamation will include the removal of all equipment, any structures, and debris from the site. Any remaining overburden or aggregate stockpiles will be backfilled into the pit and graded for positive drainage. Compacted surfaces will be loosened by mechanical means and the entire site, onsite roads, stockpile areas, and the pit footprint, will be reseeded with native plant species. The Bagdad Chase Mine will cover approximately 111 disturbed acres including exploration roads and drill pads which will be reclaimed except for the access road, drainage channel, and internal mine roads needed for access for revegetation and site maintenance (about 8 acres not to be revegetated). Mining of the pit could continue until 2051.

Because the pit will be backfilled, there will be no steep slopes remaining. If the pit is not completely backfilled, any perimeter slopes will be filled to 2H:1V. If needed, a protective berm will be maintained around the pit rim and shall be posted with warning signs of steep slope hazard. The ends of any remaining benches will be blocked with large rock (larger than ¼ ton) to prevent access. The overburden stockpiles and any remaining aggregate or ore will be pushed back into the pit and the stockpile areas will be graded and ripped as needed, covered with salvaged soil and revegetated. The access roads will be left onsite for use during revegetation and monitoring activities and for overall future site access and public safety as shown on the Reclamation Plan. Roads not needed for site and mine access will have any road base material removed, surface ripped and covered with available soil and revegetated. Other onsite roads needed for mine access will be reclaimed after reclamation of quarries and stockpiles to allow access to all reclamation areas.

Revegetation:

To implement revegetation, the Reclamation Plan requires that all native seeds be used during the revegetation effort. Therefore, native seed should be collected onsite or from similar areas of undisturbed Mojavean Desert scrub habitat located adjacent to the active mine site. If needed to augment seed collection, native seeds may be purchased from commercial suppliers.

Cleanup:

At the completion of mining activities, clean-up, backfilling, and revegetation will be conducted within five years of the termination of mining. All equipment and structures will be removed within one year recycled, and/or disposed of at an appropriate landfill site (e.g., Barstow Landfill). Excess material stockpiles will be used for backfilling and regraded for positive drainage, scarified, and revegetated.

There are no wells onsite to be closed. If any portals, shafts, tunnels or openings remain on the reclamation site after mining and backfilling, they will be either closed, or gated and protected from public entry but preserved for bat and other wildlife if appropriate with County consultation.

Post Reclamation and Future Mining:

The reclaimed site will allow for future exploration and development of additional reserves located on both patented lands and unpatented claims outside of the backfilled Main Pit. The reclaimed site will not preclude or necessitate any future mining activities or surface modification.

Reclamation Financial Assurance:

Once the proposed revision to the reclamation plan is approved by San Bernardino County, Bagdad Chase will post a reclamation financial assurance in an amount sufficient to pay for the cost of reclamation for the first year of planned operations and estimated area disturbance and shall remain in effect for the duration of the surface mining operation and any additional period until reclamation is completed. The reclamation financial assurance shall be reviewed by the County annually as required by SMARA. San Bernardino County is the lead agency for SMARA compliance and will review the Reclamation Assurance and inspect the mine site annually.

PROJECT ANALYSIS:

Purpose and Need for the Project

The Project is not located in a state defined Mineral Resources Overlay. However, the Certificate approved by the County certified the historic operation as a legal use of the site (vested right) for mineral resource development. This vested right is consistent with the vested right definition in the SMARA. Therefore, the Project will provide a mineral resource that would be of value to the region and the residents of the State.

Project Objectives

This proposed Reclamation Plan was prepared with the following objectives:

- To reopen a historic and vested precious ore mine to produce gold and other precious metals that can be economically processed with current processing methods;
- To develop the precious metal resource in compliance with the State and County's SMARA requirements;

- To utilize overburden to produce secondary products including construction aggregate and decorative rock;
- To operate the mine in a safe and environmentally friendly manner with respect to open desert resources;
- To provide reclamation in the form of backfilling the pits with overburden and revegetation to the disturbed areas to reduce visual, biological, and safety impacts; and
- To reclaim the site for open space end use.

Division of Mine Reclamation

The Project was reviewed by the California Department of Conservation, Division of Mine Reclamation (DMR) after County staff submitted the initial project mining documents and reports on October 18, 2021. DMR notified the County on December 16, 2021, that the October 18, 2021, submittal was deemed incomplete. In response, on November 15, 2022, the County re-submitted project mining documents and reports addressing and addressed all DMR's comments. No additional comments were received by DMR within the required review period.

Environmental Analysis

An Initial Study (IS) has been completed in compliance with CEQA (Exhibit C) and transmitted to the State Clearing house, posted and distributed on January 6, 2022. The IS concludes that the Project will not have a significant adverse impact on the environment with the implementation of recommended mitigation measures, which have been incorporated in the Conditions of Approval (Exhibit D). A Notice of Availability/Notice of Intent (NOA/NOI) to adopt a Mitigated Negative Declaration (MND) was advertised on the County Environmental Website and distributed to initiate a 30-day public comment period, which concluded on February 7, 2021. One comment letter to the NOA/NOI has been received from Desert Tortoise Council and is addressed below.

A Biological Resources Report was prepared by ELMT Consulting, Inc. (ELMT) in June 2021. The biology report provides an in-depth assessment of the suitability of the on-site habitat to support special-status wildlife species, in particular desert tortoise (*Gopherus agassizii*) and burrowing owl (*Athene cunicularia*) as well as special-status plant identified by the California Natural Diversity Data Base (CNDDB), the California Native Plant Society's (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California, and other electronic databases to identify species with the potential for occurring in the vicinity of the Project Site. Additionally, a desert tortoise presence/absence survey and special-status plant survey were conducted in conjunction with the habitat assessment to document the presence/absence of desert tortoise and special-status plants within the boundaries of the survey area.

Mammalian species observed or detected during the field investigation were black-tailed jackrabbit (*Lepus californicus*), white-tailed antelope ground squirrel (*Ammospermophilus leucurus*), coyote (*Canis latrans*), kangaroo rat (*Dipodomys* sp.), and desert woodrat (*Neotoma lepida*). Additional common mammalian species that have potential to occur on-site include desert cottontail (*Sylvilagus audubonii*) and bat species (*Myotis*, *Lasiurus*, and *Antrozous* sp.). The southern portion of the site supports rock faces and steep cliffs that provide potential roosting habitat for local bat species. The MND and biology report address these species as follows:

Nesting Birds:

The creosote bush scrub plant community occurs throughout the survey area, outside of the areas that have been subject to historic mining activities. No active nests or nesting behaviors were observed during the field investigation. However, the creosote bush scrub plant community provides suitable foraging and nesting habitat for year-round and seasonal avian residents, as well as migrating songbirds that have adapted to conditions in the Mojave Desert. Mitigation Measure BIO-1 was included within the MND to ensure no impacts to nesting birds occur with project implementation.

Desert Tortoise:

The undeveloped portions of the Project Site are dominated by creosote bush scrub plant communities that have the potential to provide suitable habitat for desert tortoise. Focused presence/absence surveys were conducted on October 29, 2020 and May 14, 2021. No live tortoises or signs were observed on the Project Site during the surveys. Based on the results of the focused survey, desert tortoise is presumed absent from the Project Site. It should be noted that there are eight known locations of desert tortoise in the area that have been relocated in the vicinity of the Project Site from the 29 Palms Military Base, located outside of the project boundaries. However, to ensure no impacts to desert tortoise occur within the limits of disturbance, Mitigation Measure BIO-2 was included within the MND to ensure no impacts to the desert tortoise occur with project implementation.

Streambed Alterations:

A Delineation of State and Federal Jurisdictional Water Report (delineation report) was prepared for the Project by ELMT in June 2021 (report available at County office). Several unnamed ephemeral drainage features were observed within the boundaries of the Project Site during the field delineation. All of the onsite drainage features generally flow in a west to east direction across the Project Site and south to north across the 25-acre processing site. These features only convey surface flow in direct response to precipitation, and do not support riparian vegetation. All of the onsite drainage features, after flowing offsite, eventually infiltrate into dry lakebeds. The drainages will be diverted around the pit and through the operations area as shown in the mine plans.

The onsite drainage features do not have a surface hydrologic connection to downstream waters of the United States. Any impacts to on-site jurisdictional areas will likely require a Regional Board Report of Waste Discharge permit and CDFW Section 1602 Lake or Streambed Alteration Agreement prior to project implementation. With issuance of the permit and Alteration Agreement, less than significant adverse impacts are identified or are anticipated, and no mitigation measures are required.

Regional Board and CDFW:

The onsite drainage features exhibit characteristics consistent with the Regional Water Quality Control Board (Regional Board) methodology and would be considered jurisdictional waters of the State. Although there would be no impact to existing fish and wildlife resources, the onsite

drainage features exhibit characteristics consistent with California Department of Fish and Wildlife (CDFW) methodology and would be considered CDFW streambed. The Regional Board and CDFW streambed areas and lengths are approximately 7.2 acre (6,430 liner feet) of potential impacts that may occur within Regional Board waters of the State and CDFW jurisdictional streambed. Potential impacts to on-site Regional Board waters of the State and CDFW jurisdiction streambed will likely require a Regional Board Report of Waste Discharge permit prior to project implementation and a CDFW Section 1602 Streambed Alteration Agreement. Ultimately the regulatory agencies make the final determination of jurisdictional boundaries and permitting requirements. With the implementation of Mitigation Measure NIO-3, the Project is not anticipated to have a significant effect on any waters of the State.

Cultural Resources:

A Cultural Resources Assessment, dated July 21, 2021, was prepared for the Project by BCR Consulting LLC (report available at County office). The assessment was completed pursuant to CEQA, the Public Resources Code (PRC) Chapter 2.6, Section 21083.2, and California Code of Regulations (CCR) Title 14, Chapter 3, Article 5, Section 15064.5. The pedestrian cultural resources survey was intended to locate and document previously recorded or new cultural resources, including archaeological sites, features, isolates, and historic-period buildings, that exceed 45 years in age within defined project boundaries.

Prior to fieldwork, an archaeological records search was conducted at the South Central Coastal Information Center (SCCIC). This included a review of all recorded historic and prehistoric cultural resources, as well as a review of known cultural resources, and survey and excavation reports generated from projects completed within one half-mile of the Project Site.

The Bagdad Chase mine produced more copper and gold than any other mine in San Bernardino County during the 20th century and is significantly associated with important events related to the development of the region. It may be eligible for the California Register. Even though the site is recommended eligible for its association with important Historical events, it does not retain historical elements sufficient to convey its eligibility through integrity of setting, design, materials, workmanship, feeling, and association. Since it retains its historic name in the same area it does retain a measure of integrity of location. Due to diminished integrity, the site cannot convey its eligibility and it is recommended not eligible for listing on the California Register.

Due to a lack of historical resources located within the Project Site combined with a high level of disturbance, BCR Consulting recommends that no additional cultural resources work or monitoring is necessary for any proposed project activities. Nevertheless, the possibility of discovering an unanticipated find remains and Mitigation Measures CR-1 and CR-2 shall be implemented to ensure that less than significant impacts to historical and/or archaeological resources occur.

Mining activities could potentially disturb human remains outside of a formal cemetery. The potential exists that human remains may be unearthed during implementation of the Project. Therefore, Mitigation Measure CR-3 shall be implemented to ensure that less than significant impacts regarding human remains occur.

Cumulative Impacts:

The results of the IS/MND show that there are potentially significant impacts to Biological and Cultural / Paleontological Resources, including jurisdictional waters of the State. Potential biological impacts to nesting birds, desert tortoise, and jurisdictional streambeds will be reduced to less than significant levels after incorporation of mitigation measures BIO-1 through BIO-3 and compliance with existing rules and regulations. Therefore, the IS/MND concludes that the Project will not substantially degrade the quality of the environment and impacts to habitat, wildlife populations, plant and animal communities, rare and endangered species, and jurisdictional waters of the State; therefore no additional mitigation is warranted.

Public Comments

Project notices were sent to surrounding property owners within 1300 feet of the Project Site as required by Development Code Section 85.03.080. A NOA was also sent to surrounding property owners and responsible agencies, as part of the CEQA process. One comment from the Desert Tortoise Council was received on September 22, 2022, during the comment period. The comment letter received was in regard to the presence of Desert Tortoise on the proposed access road to the mine. The comments were addressed in a letter (Exhibit E) to the Council and is included as part of the administrative record.

RECOMMENDATION: That the Planning Commission:

1) **ADOPT** the Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program (Exhibits C and F);

2) **APPROVE** the Water Supply Assessment (Exhibit B);

3) **ADOPT** the Findings as contained in the Staff Report (Exhibit G);

4) **APPROVE** Reclamation Plan 23M-01 for the Bagdad Chase Mine, subject to Conditions of Approval (Exhibit D); and

5) **DIRECT** staff to file the Notice of Determination (Exhibit H).

ATTACHMENTS:
EXHIBIT A: Bagdad Chase Mining/Reclamation Plan 23M-01
EXHIBIT B: Water Supply Assessment for Bagdad Chase Mine
EXHIBIT C: Initial Study/Mitigated Negative Declaration
https://www.sbcounty.gov/uploads/LUS/Environmental/Bagdad_Chase_Mine/Bagdad%20Chase%20Mine%20Initial%20Study%20Final%2008.10.2022.pdf-Dave's%20Signature.pdf
EXHIBIT D: Conditions of Approval
EXHIBIT E: Response to Comments
EXHIBIT F: Mitigation Monitoring and Reporting Program
EXHIBIT G: Findings
EXHIBIT H: Notice of Determination

EXHIBIT A

Bagdad Chase Mining/Reclamation

Plan 23M-01

RECLAMATION PLAN
FOR THE
BAGDAD CHASE MINE

San Bernardino County
Formerly Reclamation Plan # 84M-022

Prepared For:

The Bagdad Chase Mining Company, LLC
425 South 2nd Ave PMB 1269
Barstow, CA 92311

Submitted To:
County of San Bernardino
Planning Department
385 North Arrowhead Avenue
San Bernardino, California 92415

Prepared By:
Lilburn Corporation
1905 Business Center Drive
San Bernardino, California 92408

August 2021

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LIST OF FIGURES

Note: Geological Maps are found in Appendix C (Slope Stability Report, Terracon, May 2021).

LIST OF TABLES

APPENDICES

MAP SHEETS (attached)

PROFESSIONAL CERTIFICATIONS

Slope Stability (Appendix C)

We have completed the Slope Stability Investigation services for the above referenced project. This study was performed in general accordance with Terracon Proposal No. PCB215021 dated February 15, 2021. This report presents the findings of the data review, geologic mapping, field testing, and structural evaluation, and provides recommendations concerning suitable slope angles and heights for reclamation consistent with Surface Mining and Reclamation Act (SMARA) requirements.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,
Terracon Consultants, Inc.

John S. McKeown, C.E.G. 2396
Senior Geologist

Jay J. Martin, C.E.G.1529
Principal Geologist

Subject Matter Expert: Brian J. Williams, P.E., P.G.

Drainage Study - Surface Hydrology (Appendix D)

CASC
Engineering and Consulting

1470 E. Cooley Dr.
Colton, CA 92324
(909) 783-0101 · Fax (909) 783-0108

Date: 2021.08.06 16:16:51 -07'00'

Chris Sidor, PE

August 6, 2021

REGISTERED PROFESSIONAL ENGINEER
CHRISTOPHER A. SIDOR
C 90500
CIVIL
STATE OF CALIFORNIA

Land Survey and Aerial Mapping/Topography – Merrell Johnson (Appendix E)

BAGDAD CHASE MINE
RECLAMATION PLAN

1.0 MINE OPERATIONS

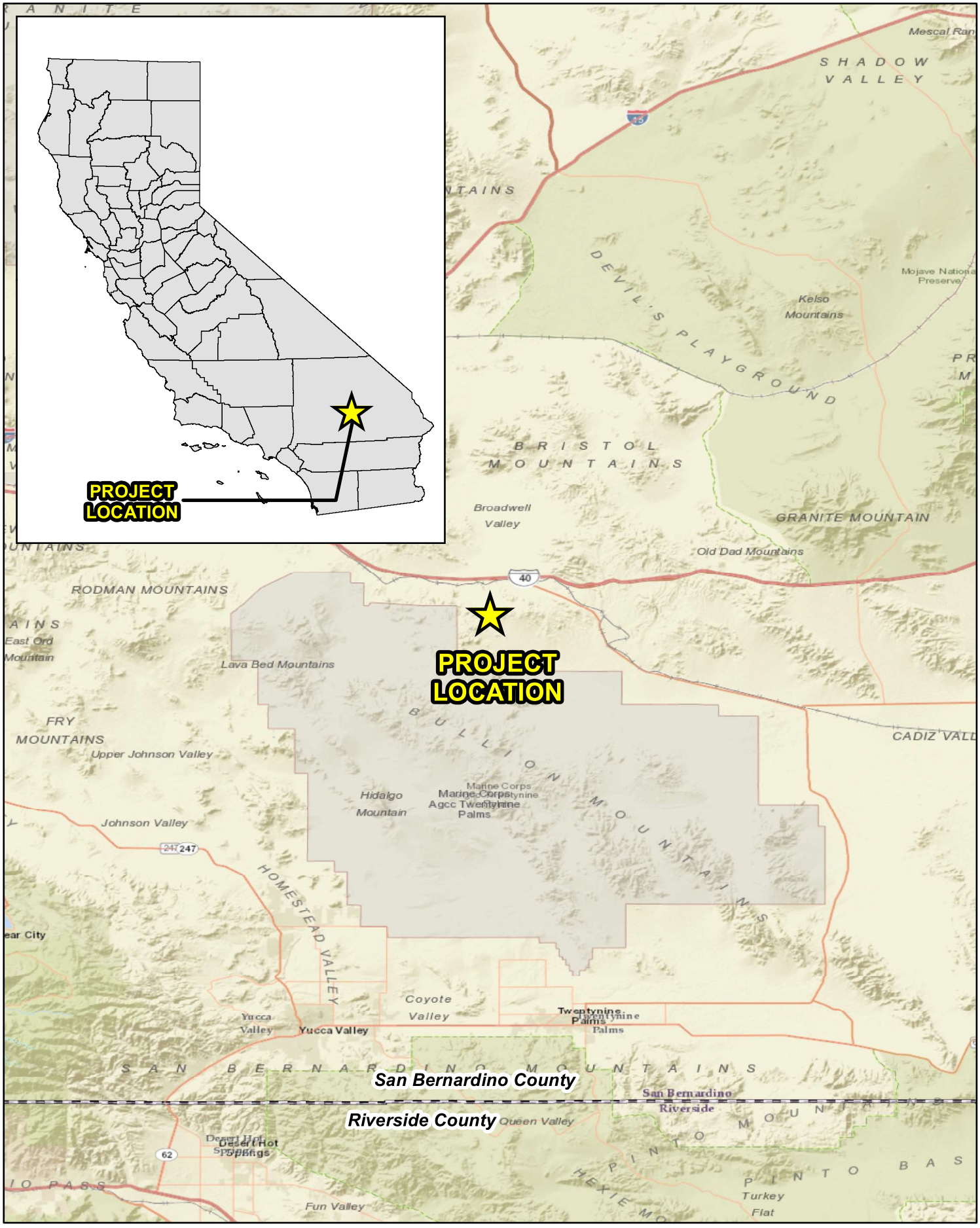
The Bagdad Chase Mining Company LLC (Bagdad Chase) is submitting this application for a Reclamation Plan (Plan) for the Bagdad Chase Mine. The Bagdad Chase Mine (project or mine site) has been explored and mined intermittently since the late 1800s and is located on patented (private) lands owned by Bagdad Chase. It was a major gold source in the County of San Bernardino (County) in the period from 1903 to 1953 with an estimated 340,000 ounces of gold produced.

Under the Surface Mining and Reclamation Act of 1975 ("SMARA", Cal. Public Resources Code Section 2710 et seq.), to operate a mine, a site must have: (1) a vested right or a conditional use permit; (2) a reclamation plan; and (3) a financial assurance. (Cal. Public Resources Code Section 2770.) This site has a vested right.

In July 2011, the County of San Bernardino approved a Certificate of Land Use Compliance and Conditional Approval to certify legal use of the site (vested right) for mineral resource development (refer to Appendix F). This vested right is consistent with the vested right definition in the Surface Mining and Reclamation Act of 1975 under ("SMARA", Cal. Public Resources Code Section 2776). In addition, along with its long history of mining and mineral exploration, the County approved a Reclamation Plan (84M-022) for the mine in June 1984 demonstrating recognition of the surface and underground mineral resource development activities as an existing vested right. The Certificate further states *"Mineral resource development to the fullest extent at the subject properties shall not require a mining Conditional Use Permit approval under the County's Development Code, as the pre-existing use was a permitted use by right, enacted at the time the subject properties underwent development and subsequent approval by the County (ref. Reclamation Plan 84M-022 dated May 30, 1984)."* [pages 1 & 2)]

While the recognition of the mine's vested rights allows mineral resource development onsite, a Reclamation Plan must be submitted and approved by the County per its Development Code (Chapter 88.03) and SMARA.

Bagdad Chase plans on reopening the historic gold mine within the Stedman / Buckeye Mining District located about 50 miles east of Barstow and seven miles south of Ludlow and Interstate 40 (I-40). The proposed mining and exploration activities will consist of approximately 244 acres within 511.75 acres of private lands in portions of Sections 4, 5, and 8, Township 6 North, Range 8 East and Section 32 in Township 7 North, Range 8 east, San Bernardino Base and Meridian. The Bagdad Chase Mine is located within the Assessor Parcel Numbers (APNs) as listed in Table 1, Land Ownership. Bagdad Chase also holds unpatented mining claims on approximately 4,000 acres surrounding the private lands. Refer to Figures 1 and 2 for Location and Vicinity Maps.



Source: ELMT Consulting, Inc., June, 2021.

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LILBURN CORPORATION

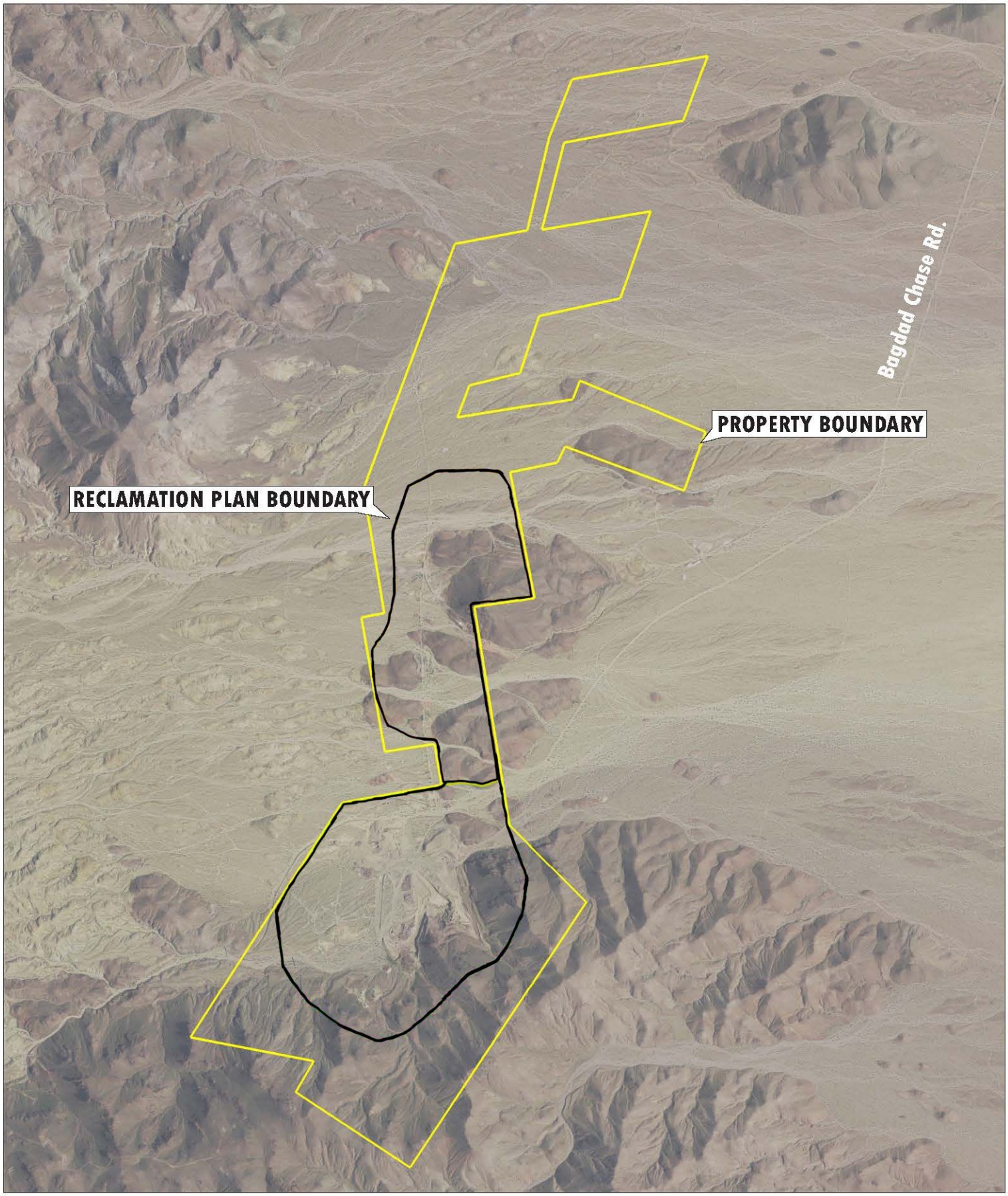
THE BAGDAD CHASE MINING COMPANY

REGIONAL MAP

Bagdad Chase Mine

Reclamation Plan

FIGURE 1



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Feet

Source: Lilburn Corp., August, 2021.

LILBURN CORPORATION

THE BAGDAD CHASE MINING COMPANY

VICINITY MAP

Bagdad Chase Mine

Reclamation Plan

FIGURE 2

The site is accessed from Ludlow, I-40, and the National Trails Highway via the unpaved Bagdad Chase Road utilized to access the area's mines and former small mining towns since the early 1900s. This road is shown on County Assessor Parcel Maps and all USGS topographic maps. The 2011 County Certificate of Land Use Compliance certified the *"legal use of the properties and may support a protective measure for existing access routes by giving priority of use over other proposed future lands uses in the immediate area."* Currently, the northern 0.6 miles of the road is utilized by a communications site and the northern 3 miles are also used for access to a west to east utility corridor. (See Mitchell Chadwick letter on August 12, 2021, for further information on the access roads.)

Bagdad Chase plans on excavating the former mining area defined as the Main Pit (47 acres) to extract precious metal ore. The run-of-mill ore will be graded and separated onsite, then transported to a processing facility to be constructed south of Ludlow under a separate Conditional Use Permit (CUP.) The mine and reclamation plan boundary is on privately held lands totaling approximately 511.75 acres with a mining and exploratory disturbance area to be reclaimed consisting of approximately 244 acres. Approximately 53 acres are disturbed from past mining and exploration activities. In addition, aggregate and decorative rock will be produced from non-ore bearing rock or overburden based on demand. Bagdad Chase is planning an operational period of 30 years followed by 5 years of reclamation with revegetation monitoring continuing until success criteria achieved. Therefore, the overall reclamation plan will be 35 years.

The surrounding areas are public lands designated as the Mojave Trails National Monument in 2016. It is administered by the Bureau of Land Management (BLM). The area consists of vacant desert lands within the historic Steadman/Buckeye Mining District with numerous historical mine workings and former town sites (ghost towns). There are no adjacent or nearby sensitive land uses with the nearest residences located seven miles north in Ludlow.

The property is situated in the foothills of the Bullion Mountains, in the upper Mojave Desert at an elevation averaging 2,400 feet above mean sea level (amsl). The Marine Corps 29 Palms Base is located about 1 to 2 miles to the south and west. The plant community within the boundary of the project site and adjacent open space areas is creosote desert scrub.

This proposed Reclamation Plan was prepared with the following objectives:

- To reopen an historic and vested precious ore mine to produce gold and other precious metals that can be economically processed with current processing methods;
- To develop the precious metal resource in compliance with the State's and County's SMARA requirements;
- To utilize overburden to produce secondary products including construction aggregate and decorative rock;
- To operate the mine in a safe and environmentally friendly manner with respect to open desert resources;
- To provide reclamation in the form of backfilling the pits with overburden and revegetation to the disturbed areas to reduce visual, biological, and safety impacts; and
- To reclaim the site for open space end use.

The following information is listed as required by SMARA:

Land Owner, Operator:

The Bagdad Chase Mining Company, LLC
425 South 2nd Ave. PMB 1269
Barstow, CA 92311

Representative:

The Bagdad Chase Mining Company, LLC
425 South 2nd Ave. PMB 1269
Barstow, CA 92311
Andrew Plummer
Phone #: (206) 790-8997
avpiv516@gmail.com

Reclamation Plan No.: New number to be provided by County; formerly 84M-022 (approved in 1984; expired June 1996)

Mineral to be Mined: precious metal ore up to 100,000 tons of ore per year

County Wide Policy Plan (November 2020) Land Use Category (LUC): Open Space (OS)

County Wide Policy Plan (November 2020) Zoning: Resource Conservation (RC)

Estimated Start Date: January 1, 2022

Estimated Operating Life: 30 years (or until December 31, 2151)

Estimated Mining Termination Date: December 31, 2151

Property Area: 511.75 acres

Reclamation Plan Area: 244 acres

Area to be Reclaimed: 103 acres (111 acres total minus about 5 acres for roads and 3.5 acres for the diversion channel)

Estimated Reclamation Completion: December 31, 2156 (followed by revegetation monitoring until success criteria achieved)

Reclaimed End Use: Open space

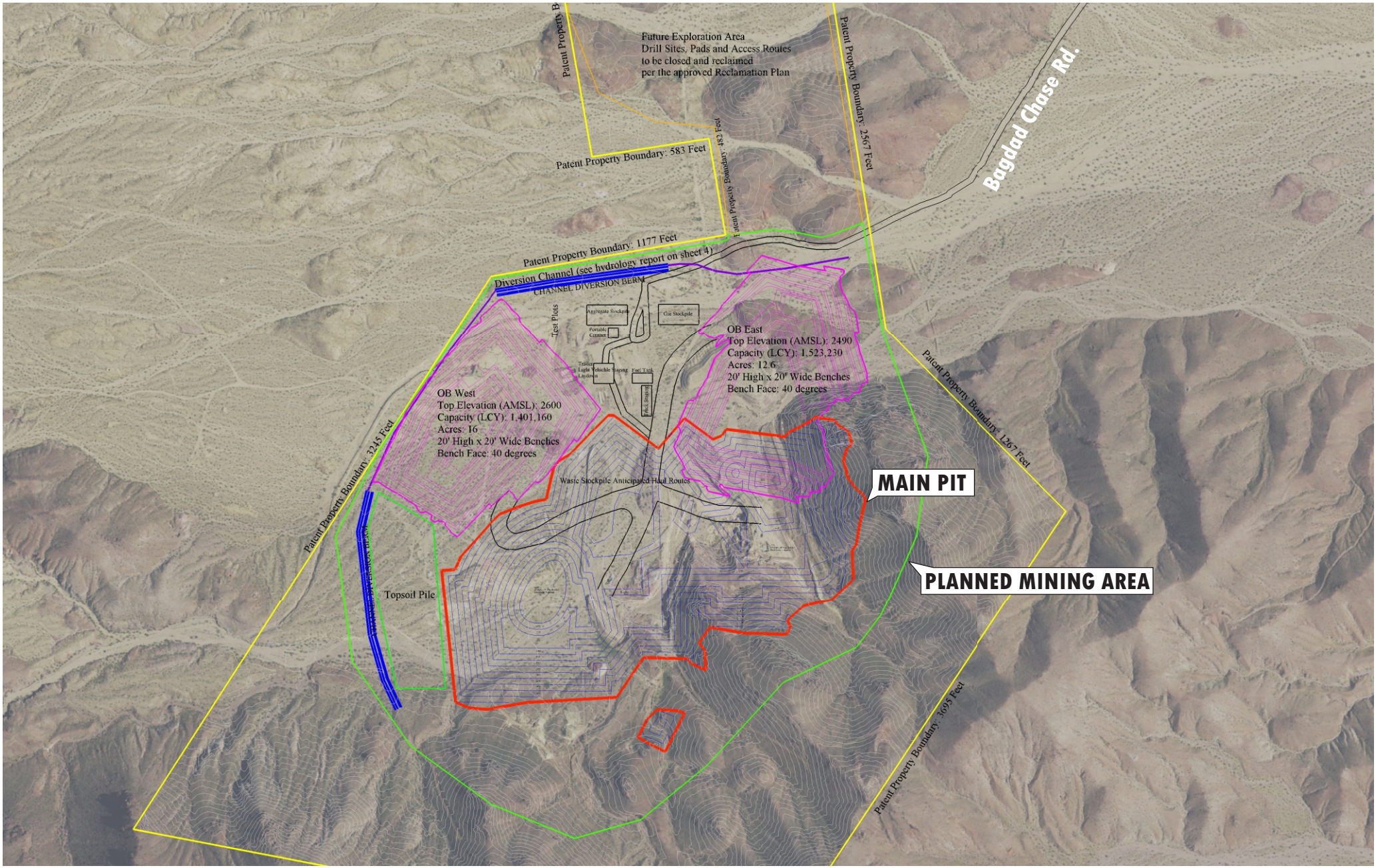
Land Holdings

Bagdad Chase's mostly contiguous private land holdings that make up the owner's property with the reclamation plan boundary within said parcels are listed below (refer to Figure 3 and Sheets 1, 2 and 5). Table 1 lists the assessor's parcel number, area, and section location. All of the private parcels are assessed for mining/metals and for industrial class. In addition, Bagdad Chase holds over 4,000 acres of unpatented claims in the surrounding areas.

Table 1
Bagdad Chase Mine - Privately-Held Land Holdings

Parcel Number	Area (acres)	Sections within T6N, R8E;SBBM
0551-181-02	20.66	8
0551-181-03 (RP)	20.66	8
0551-181-04 (RP)	20.66	8
0551-181-05 (RP)	19.07	8
0551-181-06 (RP)	19.07	8
0551-181-07 (RP)	6.57	8
0551-181-08 (RP)	15.52	8
0551-181-09 (RP)	20.66	8
0551-181-10 (RP)	20.66	8
0551-181-11 (RP)	20.66	8
0551-181-12 (RP)	20.66	8
0551-181-13 (RP)	20.66	8
0551-181-14	20.66	8
055-191-02	20.66	32[1]
0551-191-03	20.66	32[1]
0551-191-04	20.66	4 , 5 & 32[1]
0551-191-05	10.57	5 & 32[1]
0551-191-07	7.38	5
0551-191-10	20.66	4
0551-191-11	20.66	4 & 5
0551-191-12	20.66	5
0551-191-15 (RP)	20.66	5
0551-191-16 (RP)	13.77	5
0551-191-17 (RP)	20.66	5
0551-191-19[2]	20.66	5
0551-191-22[2]	7.75	5
0551-191-24 (RP)	20.66	5 & 8
0551-191-25 (RP)	20.66	5 & 8
Total Parcels (28)	**511.75**	---
Total Reclamation Plan Area	**244**	---
Total Disturbance Area to be Reclaimed	**111**	---

Sources: SB County APN information, Bagdad Chase; Merrell Johnson Survey, 2021.
(RP) – Portions of or all of parcel within the Reclamation Pan boundary;
[1] - Section 32 with T7N, R8E;
[2] – Recently purchased; not a part of the survey or reclamation plan boundary.



See Sheet 2

MINE PLAN

Bagdad Chase Mine

County of San Bernardino, California

LILBURN CORPORATION

THE BAGDAD CHASE MINING COMPANY

FIGURE 3

1.1 MINING OPERATIONS

The Bagdad Chase Mine will consist of a 47-acre Main Pit with two overburden stockpiles of 28.5 acres. The mine is estimated to contain approximately 8 million cubic yards or 19.5 million short tons (2.43 short tons/cubic yard) of ore and rock (overburden). For start-up years 1 to 4, the site will be mined at an average rate of 800,000 tons annually; approximately 50,000 tpy of ore, 250,000 tpy of aggregate/rock, and 500,000 tpy of overburden. Note that substantially less overburden is expected in the initial year or two as mining will remove existing and near surface ore previously stockpiled and exposed.

For years 5 to 20, excavations are planned at an average rate of approximately 1,020,000 tpy; approximately 100,000 tpy of ore, 250,000 tpy of aggregate/rock, and 670,000 tpy of overburden (see Table 2). Bagdad Chase is planning a 30-year operating plan due to variations in ore quality, ore volumes, economic conditions, and overall annual production. Therefore, Bagdad Chase is requesting a 35-year reclamation plan.

Table 2
Estimated Bagdad Chase Mine Production

Main Pit	Estimated Years	Ore (tons)	Aggregate (tons)	Overburden (varies year-to-year) (tons)	Total Excavated (tons)
Annual Production	1 – 4[1] 5 - 20	50,000 100,000	250,000 250,000	500,000 670,000	800,000/yr. 1,020,000/yr.
Totals for Life of Mine	20 – 30[2]	1.8M	5M	12.7M	19.5M

Source: Bagdad Chase 2021
[1] – Substantially less overburden is expected in the initial years as mining will remove existing and near surface ore previously stockpiled and/or exposed.
[2] - Planning 30 years of operations due to variations in ore quality, volumes, and production followed by 5 years for reclamation. Volumes are estimated based on drilling data, mine design, and computer modeling. Material density is 2.43 per cubic yard. Tons rounded to tens of thousands. Totals may be slightly different due to rounding.

The Plan proposes to initiate mining within the existing Main Pit and previous underground mining area creating an oval-shaped pit to an average depth of 250 feet. The pit depth will be deepened from about 2,500 feet amsl on the hillside to the east to a floor depth of approximately 2,125 feet amsl. A total of about 19.5M tons will be excavated with estimated 1.8M tons of ore. Overburden will initially be placed in the East Overburden Stockpile; as mining progresses west, overburden will be placed in the West Overburden Stockpile. As soon as feasible, overburden will be placed back into a completed section of the east pit concurrent with mining. Eventually, mining will be conducted under the East Overburden Stockpile and overburden in both stockpiles will be used to backfill the Main Pit in accordance with SMARA regulations.

Table 3 lists the planned operational areas for the mine, overburden stockpiles, operations, exploration areas, and roads. Refer to Figure 3 and Sheet 2 for the Mine Plan.

Table 3
Planned Operational Areas (estimated acres)

Bagdad Chase Mine Areas	Existing Mine & Disturbed Areas (acres)	Planned Mine & Reclamation Areas (acres)
Bagdad Chase Main Pit	34	47
Ore & Aggregate Stockpiles	1.0	1.0 & within pits or OB stockpile areas
Overburden Stockpile East (to be pushed back into eastern portion of completed Main Pit; years 16 - 35)	4.0	12.5
Overburden Stockpile West (to be pushed back into pit during final reclamation; years 31 – 35)	6.0	16.0
Operations Area & Access/Haul Roads (portable crushing /screening and loading as needed within pits or stockpile areas)	6.5	6.5
Topsoil Stockpiles (& north sides of OB stockpiles and within pit)	---	6.0
Channel Diversion	--	3.5
Test Plots	0.5	0.5
Totals (planned mine activities)	53	93*
Buffer Areas (not to be disturbed) (mainly around SW, south, & SE of pit)	3.0*	53
Exploration Areas (to north)	5*	98 (estimate less than 10% or 10* acres of new disturbance)
Total Reclamation Plan Area (93 + 53 + 98)	53	244
Total Area to Be Reclaimed (93 + 3 + 5 + 10)	53	111

Sources: Bagdad Chase, Anderson Mining, & Lilburn August 2021
* - Areas to be reclaimed. Total areas to be reclaimed approx. 111 acres.
Note: Totals may be slightly different due to rounding.

Site Preparation Prior to Clearing

The following activities will be conducted prior to opening new areas for mining and overburden stockpile development to limit disturbed areas to within the mine plan boundaries and to facilitate ongoing and future reclamation and revegetation:

- Excavation and other disturbance limits will be located and marked in the field;
- Specified plants per the California Desert Plant Protection Act if found onsite that can tolerate transplant will be salvaged to the degree possible and will be replanted on

reclaimed land available for revegetation. Note that there are no western Joshua trees (*Yucca brevifolia*) onsite (a candidate species under the California Endangered Species Act (CESA));

- Seeds of specified plants will be collected to the extent feasible and either used for revegetation or stored appropriately for future seeding; and
- Salvageable "topsoil" or growth media up to 0.5 feet typically will be placed in a separate identified topsoil stockpile(s) located generally on the north sides of the overburden stockpiles and will be clearly marked and covered with larger material to limit wind and water erosion. In alluvium areas, additional material will be salvaged. Note that over 40 acres in the Main Pit have been disturbed by past mining activities and limited salvageable soil is available. If needed, native materials will be crushed for additional soil cover.

Mining operations for the Main Pit will consist of the following:

- Drilling and blasting;
- Excavating by excavators and loaders;
- Loading of excavated ore and aggregate rock onto off-road trucks at excavation site for transport to temporary onsite ore and aggregate stockpiles for grading and sorting (aggregate and low, medium, and high grade ore);
- Loading overburden material onto off-road haul trucks by an excavator or loader for transport to one of the two overburden stockpiles or directly backfilled into a portion of pit previously mined; and
- Loading the graded ore and aggregate rock onto 30 to 50-ton haul trucks by a loader and transporting materials approximately seven miles north on the Bagdad Chase Road to a processing facility and storage yard located to the south of Ludlow.

Some crushing and concentrating may take place onsite; however, no leaching or use of any chemicals will be used onsite. Per specific contracts, some processing of aggregate and decorative rock may be undertaken onsite by an outside contractor. All portable processing plants brought onsite must be in compliance with Mojave Desert Air Quality Management District (MDAQMD) rules and permits.

The Main Pit will be excavated by excavators and loaders with benches 25 feet in height with an inter-slope angle of 79° (about 5-foot offset) with a horizontal bench of a total of 25 feet sloped slightly towards the slope. Mine haul roads will be 60 feet wide with a typical grade of 10% or less depending on locations and conditions. Bench heights and widths may slightly vary with deposit geometry as determined in the field. The overall slope for operations and reclamation is approximately 45° or 1H:1V. See Figure 4 for the Mine Cross Sections and Sheet 4 for detailed cross-sections.

Mining and onsite stockpiling will produce from 200 to 400 tons/day of ore and 500 up to 1,000 tons/day of aggregate for an 8-hour day on approximately 250 days per year. Approximately 2,000 to 2,400 tons/day of overburden will be removed and stockpiled. The approximate total of onsite off-road haul truck trips would be 16 to 20 utilizing 200-ton capacity

trucks, or 32 to 40 if utilizing 100-ton haul trucks. Utilizing 50-ton trucks, 4 to 8 trucks trips/day would be needed to haul ore to the South Ludlow Facility site. In addition, an average of 10 to 20 trucks trips would be needed to haul aggregate to the South Ludlow Facility site depending on the market for construction aggregate.

Slope Stability

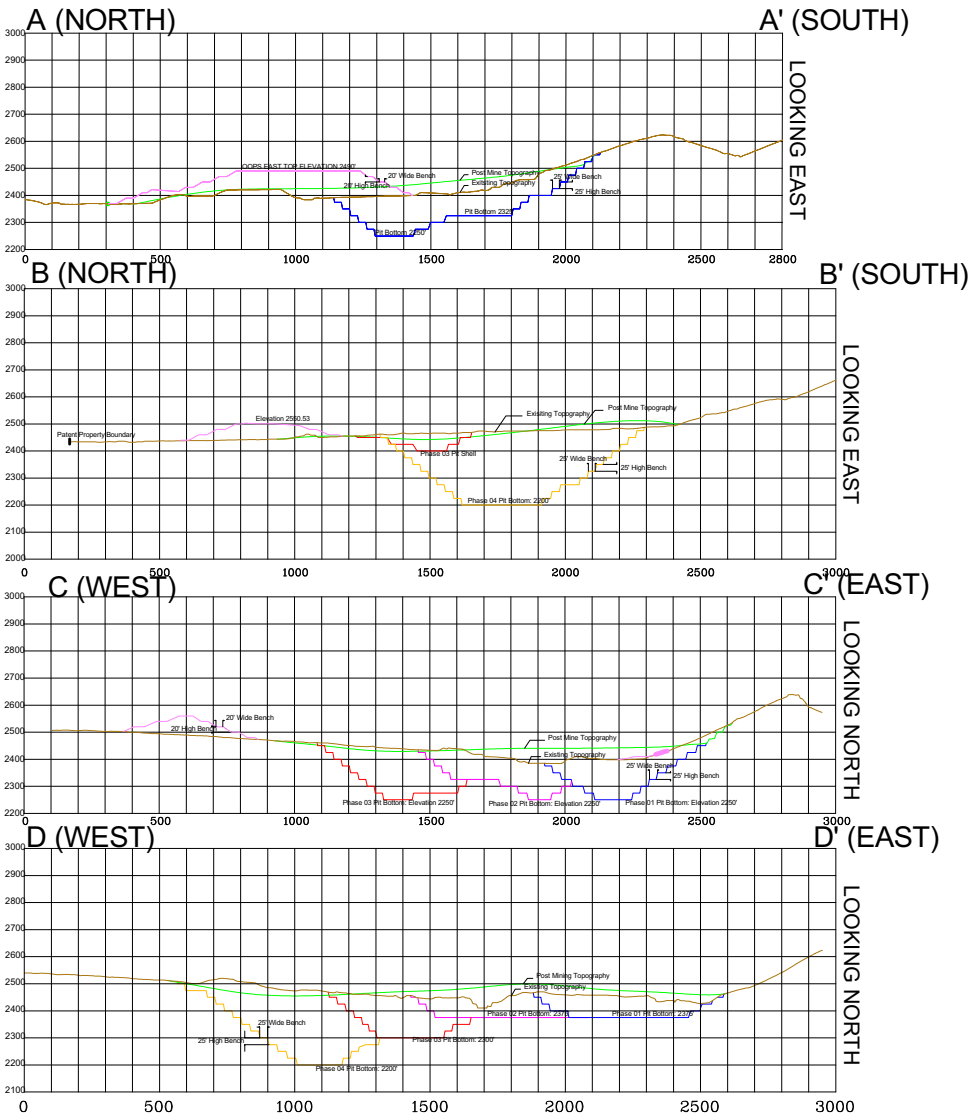
The *Slope Stability Evaluation Report* prepared by Terracon May 2021 (see Appendix C) calculated slope stability for feasibility of reclamation rock slope configurations and kinematic analysis of potential failure geometries in rock benches were performed for the Main Pit areas. The kinematic data include the measured geologic structures and pertinent data from site mapping. Global slope stability was evaluated along model sections representing the tallest and steepest proposed slopes with consideration of the major geologic units and structures as they potentially affect the wall-scale stability.

Existing excavations in and adjacent to the Main Pit area include benched cuts, room and pillar, short adits, and shaft-type features utilized during past mining. According to the proposed reclamation configuration, most existing features will be removed by future mining where they lie within the pit margin. The room and pillar area of the Main Pit is partially collapsed. Surface fissures were noted along the southern and eastern sides of the Main Pit area and are formed in fills and spoils lying above assumed underground workings.

Geological structural features evident in the Main Pit are instructive as to the types and orientations of discontinuities that could be present in final highwall cuts. The potential hazard of slope failure associated with these features is expected to be greatly reduced and mitigated under the proposed reclamation/benching/backfilling program.

The rock mass within the pit area is generally competent and capable of forming stable slopes at the proposed slope angles for reclamation. The rock structure includes blocky fabric formed by joint systems that have been characterized by analysis to yield suitably stable rock slopes. Localized structures at the bench scale may form zones that require scaling and/or excavation to flatten or steepen face angles to achieve suitable reclamation conditions.

The mine may have reclaimed worst case rock slopes with a maximum height of approximately 300 feet based on comparison of the project boundary elevations with the proposed pit bottom elevations if no backfilling were conducted. The overall slope angles would be on the order of 40 degrees, using a 25-foot high, 25-foot wide face to bench ratio. The slope models used 79-degree bench faces in global calculations. Typical face angles are between 65 degrees and 80 degrees in rock slopes; therefore, the modeled global configuration is based on a suitable geometry.



See Sheet 4

CROSS SECTIONS

Bagdad Chase Mine

County of San Bernardino, California

LILBURN CORPORATION

THE BAGDAD CHASE MINING COMPANY

FIGURE 4

The results of global slope stability analyses are summarized below in Table 4. Details of stability calculations including material type boundaries, strength parameters, and the minimum factor of safety and critical slip surface are included in Appendix C.

Table 4
Summary of Global Stability Results

Mine Area	Materials	Slope Configuration	Static Factor of Safety	Seismic Factor of Safety (with Kh=0.20)
Main Pit west slope	Andesite	300H @ 40 degrees	2.87	2.09
Main Pit northwest slope	Alluvium Andesite	275H @ 40 to 30 degrees	1.65	1.12
Main Pit east slope	Andesite	250H @ 40 degrees in rock cut 100H @ 28 degrees in native rock	2.88	2.07
Copper Jack	Andesite	100H @ 40 degrees	3.94	2.90

Note that the Copper Jack site is not a part of this Reclamation Plan.
Source: *Slope Stability Report;* Terracon May 2021.

Based on the geologic field observations and results of the slope stability analysis, Terracon determined that slope configurations analyzed for the worst case scenario are feasible with respect to slope stability from a geotechnical standpoint. Sufficient static factors of safety (FS) in excess of 1.5 and seismic (pseudo-static) factors of safety at or greater than 1.1, which are in conformance with Division of Mine Reclamation (DMR) criteria, were indicated for the modeled scenario rock slopes configurations. Slopes utilizing overall slope angles lower than 51 degrees have higher factors of safety by inference and are not calculated for this evaluation.

Based on the arid site conditions and site geology, it is unlikely that a static water table exists at or above the proposed maximum depth of reclaimed pit bottom. Groundwater conditions during mining and at completion of mining (reclamation stage) may include water seepage and ponding of limited extent. Groundwater is not anticipated to significantly affect the stability of the proposed reclamation slopes.

Moderate to severe seismic shaking of the site can be expected to occur during the lifetime of the proposed mining and reclamation. This potential has been considered in our analyses and evaluation of slope stability.

Terracon recommended the following design/monitoring measures during operations and reclamation which have been included in the slope assessment:

- Inclusion of horizontal safety benches in final slope design if not backfilled which will be an effective protection from rockfall, reduces tensional forces in surface rock, and reduces surface erosion rates.

- Pit rims will be protected with berms as necessary to prevent slope erosion in areas where overland flow is toward slopes and also for public safety.
- Overall final cut slopes in the rock materials shall be no steeper than the slopes designed in the Excavation Plan (note that the Main Pit will be backfilled with overburden, but there may be some slopes remaining on the east side).
- Localized structures at the bench scale may form zones that require scaling and/or excavation to flatten or steepen face angles to achieve suitable reclamation conditions. At such time and locations as reclamation slopes are excavated, a qualified geotech professional should examine the slope conditions to determine conformance with the reclamation plan.
- Visual inspection and monitoring of mine benches and slope conditions for indications of potential instability and failure warning signs shall be implemented.
- Annual inspections of pit wall stability with respect to planar, toppling, wedge failures and rockfall hazards should be conducted as mining progresses. The intent of these inspections is to provide recommendations to prevent or remediate potentially hazardous conditions that may be revealed during mining. The kinematic condition associated with the interaction of faults/shear planes and individual walls, if exposed in reclamation slopes, should be examined during annual inspections.
- Final reclaimed overburden stockpile slopes if left in-place shall be no steeper than 2H:1V to the maximum proposed heights as shown on the Mine Reclamation Plan and surface drainage shall be conveyed away from slopes.

Ongoing Exploration

Based on past drilling and years of mining data, additional resources are likely to occur within the property and reclamation plan boundary. Over the life of the Reclamation Plan, Bagdad Chase will continue to evaluate its onsite resources with exploratory boreholes and trenching based on geologic information within the mine area but also within about 98 acres in the northern half of the site as shown on Sheet 1. This exploration will mainly be within or on past disturbed areas and graded roads and will comply with operational and environmental protection conditions. It is expected that about 10 acres may be newly disturbed in this area. Any disturbed areas will be reclaimed per this Reclamation Plan.

Plant and Mobile Equipment

The typical mine equipment listed in Table 5 will be utilized for mining, hauling, and road maintenance activities. As operations progress over time, replacement equipment may be required to optimize operations and to meet equipment emissions' standards. The replacement equipment types would not substantively change over time. Haul trucks, diesel equipment, and any temporary portable processing plants will meet all requirements of the MDAQMD and the California Air Resources Board's (CARB) for off-road diesel vehicles regulations to reduce diesel pollutants.

Scheduled equipment maintenance will take place onsite with portable maintenance/fuel trucks with appropriate environmental safeguards. Any used oil generated at the mine site will be collected and transported for off-site recycling or disposal by approved methods and by properly

trained and licensed personnel. There will be one diesel and one gasoline storage tanks at the Mine with appropriate spill containment. The development of the site will incorporate Best Management Practices (BMPs) and a Storm Water Pollution Prevention Plan (SWPPP).

Table 5
Typical Mine Equipment for Bagdad Chase Mine

Equipment	Typical No.	Planned Days/Year	Planned Hours/Day	Purpose
Excavators (vary)	2	250	8	Loading of excavated ore and overburden into off-road trucks at excavation site for transport to temporary onsite ore and aggregate stockpiles and overburden to stockpiles.
Front-End Loaders (CAT 988 typ.)	2	250	8	Loading of excavated ore and aggregate from stockpiles into on-road haul trucks for transport to South Ludlow Facility.
Dozer (CAT D8 typ.)	1	125	4	Mining and stockpiling of material; construction and maintenance of roads and pit benches.
Grader (CAT 140 typ.)	1	80	4	Construction and maintenance of roads.
Drill Rig (varies)	1	200	8	Drill holes for placement of explosives.
Off-Road Haul Trucks (CAT 789) (typical)	2-4	250	8	Transportation of excavated material to the temporary onsite ore and aggregate stockpiles and overburden to stockpiles.
Dump Truck 2 or 3 axel)	1	125	4	Miscellaneous material movement onsite
On-Road Haul Trucks	7	250	8	Haul raw graded ore and rock to South Ludlow facility and storage yard for processing.
Water Truck (4,000 gal. typ.)	1	250	4	Water spray haul roads, active mine areas, overburden stockpiles, and general dust control.
Lubrication/fuel maintenance service truck	1	125	8	Service truck for onsite equipment
Portable Processing Plant (as needed) (feed hopper, crusher(s), screen(s), and conveyors)	1	intermittent	varies	Portable crushing/screening plant for ore and as needed per contract to process aggregate or decorative by outside contractors utilizing permitted equipment.
Ancillary Equip.	Varies	Varies	Varies	Maintenance vehicles, pick-ups, SUVs, etc.

Source: Bagdad Chase 2021
List above is typical equipment to be used onsite. Equipment types are not expected to vary. Specific equipment will change during the life of the project due to replacement of aging equipment and updated equipment and fleet emission standards.

Dust Control

Dust control measures must be in compliance with MDAQMD Rules 401 (limiting visible emissions); 402 (avoid nuisance emissions to people or businesses or property); and 403 (prohibits visible dust from crossing property lines and controlling fugitive dust). The main dust

control method is the water spraying of roads, operational mine areas, and active overburden stockpiles. A 4,000-gallon water truck would be used for dust control. Water for dust control will be obtained from private sources in the Ludlow area (will serve letter from water supplier) or a well to be drilled at the South Ludlow Facility.

Haul roads and the Bagdad Chase Road will be improved with an 8-inch gravel base produced onsite to reduce dust and erosion. Bagdad Chase will also utilize magnesium chloride or other approved dust suppressant as recommended by the manufacturer to further reduce road dust.

In addition, any portable crushing/screening plants occasionally used onsite by outside contractors will be required to be permitted by the MDAQMD and to implement applicable dust control measures.

Sanitation

Portable toilets will be supplied for use by employees and will be located onsite at the operations area.

Employee Safety

Approximately 15 employees are expected to work onsite. Active mining areas will comply with all federal (MSHA) and state (Cal-OSHA) mine safety regulations. Workers, including contractor labor, will be trained in mine safety and first aid. Access and haul roads will be designed with safety berms per MSHA requirements, the pit will safety benches with berms, and inactive ramps and roads in mining areas will be blocked to prevent access.

Prior to blasting activities, employees working in the area will be notified, and a visual search of the area is done prior to blasts to verify that no one is present in the area. Standard horn signals are used to notify personnel before and after blasts (all clear).

Site Access and Public Safety

The site is accessed from the planned South Ludlow Facility via the unpaved Bagdad Chase Road utilized to access the area's mines and former small mining towns since the early 1900s. This road is shown on County Assessor Parcel Maps and all USGS topographic maps from the past to present. Currently the northern 0.6 miles of the road is utilized by a communications site and the northern 3 miles are also used for access to a west to east utility corridor. (See also Mitchell Chadwick letter of August 12, 2021.)

Haul trucks of 30 to 50-ton capacity (typical) with street-legal widths as allowed will be transporting ore and aggregate rock from the mine site to the South Ludlow Facility. Roads will be graded and improved with an 8-inch gravel road base which will be sourced from the Bagdad Chase mine.

Mine areas will have warning signs every 500 feet, dirt roads not used will be blocked or closed, and safety berms six feet in height will be constructed along the pit rims where the public could access. Any unauthorized roads will be blocked or closed permanently at the property boundary.

There are no water wells onsite to be closed. Numerous portals, shafts, tunnels or openings located in the planned operations area will be "mined" out reducing public safety concerns. Any portals, shafts, tunnels or openings that remain on the mining site after mining and backfilling, they will be either closed or gated and protected from public entry but preserved for bat and other wildlife if appropriate with County consultation.

1.2 MINE WASTE

Overburden material is estimated to be approximately about 12.7 million short tons over the life of the plan. During the initial 1 to 4 years, overburden production will be limited due to the removal of stockpiled and exposed ore currently onsite. Overburden will be stored temporarily in two stockpiles; the East and West overburden stockpiles. The stockpiles will have slopes of 2H:1V during operations and all overburden will be used to backfill the pit concurrently as feasible with backfilling completed during final reclamation. Note that during the initial clearing of the pit areas, the top 0.5 feet or more of growth media "topsoil" (mostly alluvium) will be pushed and hauled to the southwest side of the West Overburden Stockpile and along the north and west sides of the Eat Overburden Stockpile where it will be stored until final reclamation. The "topsoil" stockpiles will be clearly marked and covered with larger material to limit wind and water erosion.

East Overburden Stockpile – Overburden stockpile for the Main Pit with an area of 12.5 acres (will extend into Main Pit footprint at times) and a maximum height of about 125 feet above the surface (approximately 2,550 feet amsl). As mining progresses westward across and is completed in the east side of the Main Pit, overburden from new mining and from this stockpile will be backfilled into the pit until it is exhausted and compacted by equipment rollover.

West Overburden Stockpile – Overburden stockpile for the Main Pit with an area of 16 acres and a maximum height of about 100 feet above the surface (approximately 2,550 feet amsl). As mining progresses westward across and is completed in the west side of the Main Pit, overburden from this stockpile will be backfilled into the pit until exhausted and compacted by equipment rollover.

Any material separated for use as aggregate or decorative rock that remain after termination of operations, will be backfilled and graded into the Main Pit area.

Hazardous Materials and Waste

No hazardous materials will be used onsite with the exception of fuel and oil for mobile equipment. Equipment maintenance and re-fueling will take place utilizing mobile maintenance trucks and portable onsite fuel tanks up to 10,000 gallons and conducted at the mine with appropriate required safeguards and best management practices (BMPs). Any used oil generated at the mine site will be collected and transported for off-site recycling or disposal by approved methods and by properly trained and licensed personnel.

The Hazardous Materials Division of the San Bernardino County Fire Department is designated as the Certified Unified Program Agency (CUPA) for the County to focus the management of specific environmental programs at the local government level. Bagdad Chase will prepare a Business Emergency/ Contingency Plan to include operations for the site. The Business Plan

includes a hazardous materials inventory and Spill Prevention Control and Countermeasure Plan (SPCC) to ensure that on site materials are stored appropriately and contained in the event of uncontrolled release utilizing BMPs. Fuel storage specifications apply to all above ground fuel containers. A Hazardous Materials Business Plan (HMBP) for the mine site that addresses any hazardous materials stored and used at these facilities will be prepared. The HMBP describes methods and procedures to minimize the potential for hazardous material and waste releases including an emergency response and contingency and spill response procedures.

Safety measures for the use of blasting materials are discussed in Section 1.6 on Blasting.

1.3 ORE PROCESSING

The raw ore and aggregate (when in demand) is planned to be shipped to a processing facility and yard south of Ludlow permitted under a separate CUP for processing the precious metal ore and to crush and screen aggregate construction material. However, on occasion, ore may be crushed and concentrated onsite to facilitate transport off-site. No leaching or chemical processes would be undertaken onsite, only mechanical crushing and concentrating if needed. Per specific contracts, some processing of aggregate and decorative rock may be undertaken onsite by an outside contractor. All portable processing plants used an/or brought onsite must be in compliance with MDAQMD rules and permits related to dust emissions.

Bagdad Chase conducted various tests on the ore in addition to previous testing conducted in the 1980s. It has been the intention of the Bagdad Chase owners to find another alternative to cyanide extraction. Through testing, it has been determined that non-toxic gravitational and flotation concentration has proven just as effective as cyanide extraction. Therefore, the South Ludlow processing facility for the Bagdad Chase mine (or other off-site facilities) will use non-toxic concentration techniques. Once material is concentrated, the material will be loaded into super sacs and loaded onto semi-trucks and transported to a refinery to be processed into gold bars.

1.4 PRODUCTION WATER

Water will be used for dust control measures only. Water will be applied to the working areas, roads, and material transfer points. Water is not available at the Bagdad Chase Mine and will be hauled via a 4,000-gallon water truck (typical) from a well to be drilled if deemed favorable at the South Ludlow Processing Facility and /or purchased from a private well owner who has provided a “will serve” letter. In addition, Bagdad Chase has an off-site well located about eight miles to the east. A portable construction type water tank will be used onsite as needed.

The estimated water usage is four to five truckloads or about 20,000 gallons/day; 15 acre-feet per year based on 250 operational days per year. Water used for dust control will evaporate and therefore, the project will not produce any run-off water. If crushing is undertaken onsite, an addition 50% of the daily water usage or 10,000 gallons would be consumed for dust control. There is no surface water within the project vicinity.

1.5 EROSION AND SEDIMENTATION CONTROL

Due to the hard bedrock material and low rainfall (less than 4 inches/year) the site has little potential for erosion and sedimentation. Control of surface drainage, erosion, and sedimentation of the operations involves the following primary components:

- Limiting surface disturbance to the minimum area required for active operations;
- Diverting drainages and runoff from flowing into the mine pit and into natural drainages down gradient; and
- Stabilizing disturbed areas through backfilling, regrading, replacement of soils, revegetation, re-establishing drainages, and erosion control practices.

All operations onsite will comply with a SWPPP to be updated periodically with mine site development and implementation of storm water BMPs. The mine will be cut into bedrock and precipitation falling within the mine will be allowed to flow into the mine and percolate or evaporate during operations. After backfilling the pit, drainages will be re-established to flow through the site to natural drainages down gradient. The planned control practices are described below.

Limiting Surface Disturbance

The pit and overburden stockpiles will be developed as needed to limit surface disturbances. Surface disturbance areas which will be subject to potential erosion and sediment loss will be limited through long-range planning, effective design practices, phased development of expansion areas, and final reclamation of disturbed areas.

Diverting Runoff

The wash that flows across the mine site from the southwest to northeast was diverted by past mine operations around the north side of the mine area. The hydrology study determined flows (100-year/1 hour design) in the wash and designed and sized a diversion channel to divert and adequately carry flows to the north around the pit and return into its natural drainage course to the northeast.

Within the pits, run-off from onsite precipitation will be allowed to flow into the pits. The pits' benching will be graded slightly toward the pit wall to limit over the bench rim run-off. A safety berm five feet high and 10 feet wide will be constructed around the pits during operations which will also serve to restrict any run-on from flowing down the quarry slopes.

The overburden stockpile slopes will be developed at a slope of 2H:1V and developed in lifts to reduce potential run-off. The tops of the overburden stockpiles will be designed with inward drainage with an up to 5-foot deep depression to catch precipitation which will percolate and evaporate and avoid runoff down the stockpile slopes or haul roads and potential erosion. Concurrently as feasible and during final reclamation, the overburden stockpiled material will be used to backfill the two pits. The footprint of the stockpiles will be ripped and revegetated.

Stabilization of Disturbed Areas

The site will be visually inspected after major precipitation events to determine if any substantial erosion is evident such as sheet, rill or gully erosion or any surficial instability. Appropriate erosion control measures will be implemented where erosion is observed. In active pit areas, drainage control generally will not be a significant concern since essentially all disturbed area drainage will be retained within the basin created by the pit excavation and composed of hard rock.

Long-term stabilization, or reclamation, will generally involve backfilling the two pits, grading or reshaping disturbed areas, re-establishing effective drainage, placement of soil and alluvium, and revegetation. Surface stabilization of backfilled pit areas will consist of ripping compacted areas, soil/alluvium replacement and revegetation. Following reclamation, the majority of surface drainage through the pit areas will be re-established to existing drainages flowing to the north and then east.

Acid mine drainage refers to the outflow of acidic water from metal mines or coal mines; typically, those that are abandoned. The Bagdad Chase pits will be backfilled with the native rock material or overburden. This material does not have sulfides and will not create acid mine drainage. In addition, given the arid environment, no water outflow is expected in any event.

1.6 BLASTING

Blasting operations involve drilling along the mining face, placement of charges, and detonation of the charges by a blaster licensed through the Bureau of Alcohol, Tobacco, Firearms, and Explosives (BATF&E) for handling explosive materials. The transporting, handling, storage, and use of explosive materials, blasting agents, and blasting equipment shall be directed and supervised by a qualified blasting contractor. The blasting contractor and the explosive delivery company must be licensed in accordance with all Federal, State, and local agencies and regulations, U.S. Department of Transportation hazardous materials (HAZMAT) Certificate of Registration, California HAZMAT Transportation License, and general liability insurance policy for explosive transportation and permitted under the San Bernardino County Fire Department pursuant to Uniform Fire Code adopted by the Department.

All blasters shall possess a current blasting license issued by CAL-OSHA and be experienced in mine blasting and hold applicable insurance. The blasting contractor's employees must be trained in accordance with CAL-OSHA and MSHA requirements and possess certification of such training.

Blasting shall only be conducted by a licensed blaster under the Office of Surface Mining (OSM) Blasting Performance standards (30 CFR Section 816.61-68). A blast design is required if conducted within 1,000 feet of any building used as a dwelling, public building, school, church, or community or institutional building outside the permit area and pre-blasting surveys are required for all residents or owners of dwellings or other structures located within 1/2 mile of the permit area (30 CFR Section 816.61-62). No such dwellings or residents exist within these distances to blasting operations.

Drilling will be conducted 5 days a week, 8 hours/day on about 200 days per year with depths of approximately 30 feet. Blasting will be conducted approximately 5 times per month or 60 times

per year. Blasting activities will take place between the hours of 10:00 a.m. and 4:00 p.m. on weekdays (Monday through Friday). No blasting shall be allowed after dark.

It is also important that basic safety requirements are practiced during blasting for onsite employees, equipment, and structures. A number of safety measures specific to the project site will be required including removal of unstable boulders, stabilizing boulders, limiting the amount of explosive used in blasting, inspecting the site prior to blasting, posting lookouts and use of warning signals.

The blasting agents will be ammonium nitrate and fuel oil (ANFO). No explosives will be stored onsite.

2.0 RECLAMATION PLAN

2.1 LAND USE

The Bagdad Chase Mine is located entirely on private/patented land owned by Bagdad Chase. Bagdad Chase has unpatented mining claims that surround the private parcels. The County Wide Policy Plan (November 2020) land use category for the site is Open Space (OS) with zoning of Resource Conservation (RC). The site and surrounding area consists of vacant, rugged mountainous desert lands.

The surrounding areas are federal public lands designated as the Mojave Trails National Monument in 2016 administered by the BLM. The area consists of vacant desert lands within the historic Steadman/Buckeye Mining District with numerous historical mine workings and former town sites (ghost towns). There are no adjacent or nearby sensitive land uses with the nearest residences located seven miles north in Ludlow.

The property is situated in the foothills of the Bullion Mountains, in the upper Mojave Desert at an elevation averaging 2,400 feet above mean sea level (amsl). The Marine Corps 29 Palms Base is located about 1 to 2 miles to the south and west. The plant community within the boundary of the project site and adjacent open space areas is creosote desert scrub.

2.2 VISIBILITY

The site is not visible by any surrounding residences or roads. The site is not part of a scenic viewshed or visible from a scenic highway including old Route 66, which is approximately 7 miles to the north. The eventual reclamation and revegetation of the site will aid in blending the site with the surrounding topography and vegetation.

2.3 VEGETATION

During the biological field investigation one plant community was observed within the boundary of the project site: creosote bush scrub. In addition, one land cover type, classified as disturbed, was observed onsite. For a complete description of the onsite vegetation, refer to the *Biological Resource Report* prepared by ELMT Consulting, Inc. (June 2021) included in Appendix A of this Plan.

Past Mining Areas (approx. 53 acres)

Disturbed areas are generally areas that have been subject to a high level of human disturbances from historic mining activities and no longer support a native plant community. These areas are unpaved and are entirely devoid of vegetation or support ruderal/weedy plant species and are primarily found adjacent to remnant mining areas. Disturbed areas include existing mining pits, dirt access roads, and spoil piles. Some of the disturbed areas have partially revegetated with early/pioneer species from creosote bush scrub plant community. Plant species occurring within these disturbed areas include desert trumpet, creosote, desert tea, Mediterranean grass, chia, and wire lettuce.

Proposed Mining Areas

The creosote bush scrub plant community occurs throughout the survey area, outside of the areas that have been subject to historic mining activities. This plant community is dominated by creosote (*Larrea tridentata*). Common plant species observed in this plant community include brittlebush (*Encelia farinosa*), desert trumpet (*Eriogonum inflatum*), ladder buckwheat (*Eriogonum exaltatum*), cheesebrush (*Ambrosia salsola*), burrobrush (*Ambrosia dumosa*), silver cholla (*Cylindropuntia echinocarpa*), pencil cholla (*Cylindropuntia ramosissima*), Mediterranean grass (*Schismus* sp.), cryptantha (*Cryptantha* sp.), desert tea (*Ephedra californica*), catclaw (*Senegalia greggii*), Mojave spineflower (*Chorizanthe spinosa*), Alverson's foxtail cactus (*Coryphantha alversonii*), ajamete (*Asclepias subulata*), chia (*Salvia columbariae*), sweetbush (*Bebbia juncea*), barrel cactus (*Ferocactus cylindraceus*), beavertail (*Opuntia basilaris*), wire lettuce (*Stephanomeria* sp.), brittle spineflower (*Chorizanthe brevicornu*), desert mistletoe (*Phoradendron californicum*), Mojave rabbitbrush (*Ericameria paniculata*), coyote melon (*Cucurbita palmata*), whitemargin beardtongue (*Penstemon albomarginatus*), and smoke tree (*Psorothamnus spinosus*).

Special-Status Plants

According to the CNDDB and CNPS, seven (7) special-status plant species have been recorded in the surrounding quadrangles (refer to Appendix A). No special-status plant communities were identified within these quadrangles. Based on habitat requirements for the identified special-status species, and known distributions, it was determined that the creosote bush scrub plant community onsite has a moderate potential to support Alverson's foxtail cactus, Emory's crucifixion thorn (*Castela emoryi*), Torrey's box-thorn (*Lycium torreyi*), and white-margined beartongue (*Penstemon albomarginatus*). Further, it was determined that the project site does not have potential to support any of the other special-status species documented as occurring within the vicinity of the project site.

Focused plant surveys spaced throughout the growing seasons were conducted. Alverson's foxtail cactus was the only special-status plant species observed onsite. Emory's crucifixion thorn, Torrey's box-thorn, and white-margined beartongue and other special-status plant species known to occur within the general vicinity of the project site were not detected during the surveys.

Alverson's foxtail cactus is designated as a CNPS Rare Plant Rank 4.3 (a watch list of plants of limited distribution, not very threatened in California [low degree and immediacy of threat]) that is fairly common the Mojave Desert.

None of the aforementioned special-status plant species are federally or State listed as endangered or threatened and have only been listed by the CNPS as Rare Plant Rank species.

2.4 WILDLIFE

Plant communities provide foraging habitat, nesting and denning sites, and shelter from adverse weather or predation. A discussion of wildlife species that were observed during the field survey or that are expected to occur within the project site is included below. Refer to Appendix A for additional information on wildlife.

Fish and Amphibians

No fish, amphibians, or hydrogeomorphic features (e.g., perennial creeks, ponds, lakes, reservoirs) with frequent sources of water that would provide suitable habitat for fish and amphibians were observed on or immediately adjacent to the project site.

Reptiles

The creosote bush scrub plant community provides suitable foraging and nesting habitat for a variety of reptilian species adapted to conditions within the Mojave Desert. Reptilian species observed during the field investigation included western zebra-tailed lizard (*Callisaurus draconoides rhodostictus*), common side-blotched lizard (*Uta stansburiana elegans*), desert tortoise (*Gopherus agassizii*), and common chuckwalla (*Sauromatus ater*). Additional reptilian species that could be expected to occur onsite include, horned lizard (*Phrynosoma platyrhinos calidiarum*), Great Basin collard lizard (*Crotaphytus bicinctores*), Great Basin whiptail (*Aspidoscelis tigris tigris*), southwestern speckled rattlesnake (*Crotalus mitchellii pyrrhus*), northern Mohave rattlesnake (*Crotalus scutulatus scutulatus*) and Great Basin gopher snake (*Pituophis catenifer deserticola*).

Birds

The creosote bush scrub plant community provides suitable foraging and nesting habitat for a variety of resident and migrant bird species adapted to conditions within the Mojave Desert. Avian species observed during the field investigation include American raven (*Corvus corax*), black-throated sparrow (*Amphispiza bilineata*), and house finch (*Haemorhous mexicanus*). Common avian species expected to occur onsite include lesser goldfinch (*Spinus psaltria*), American crow (*Corvus brachyrhynchos*), cactus wren (*Campylorhynchus brunneicapillus*), rock wren (*Salpinctes obsoletus*), and Say's phoebe (*Sayornis saya*).

Mammals

The creosote bush scrub plant community provides suitable foraging and nesting habitat for a variety of mammalian species adapted to conditions within the Mojave Desert. Most mammal species are nocturnal and are difficult to observe during a diurnal field visit. Mammalian species observed or detected during the field investigation were black-tailed jackrabbit (*Lepus californicus*), white-tailed antelope ground squirrel (*Ammospermophilus leucurus*), coyote (*Canis latrans*), kangaroo rat (*Dipodomys* sp.), and desert woodrat (*Neotoma lepida*). Additional common mammalian species that have potential to occur onsite include desert cottontail (*Sylvilagus audubonii*) and bat species (*Myotis*, *Lasiurus*, and *Antrozous* sp.). The southern portion of the site supports rock faces and steep cliffs that provide potential roosting habitat for local bat species.

Nesting Birds

No active nests or nesting behaviors were observed during the field investigation. The creosote bush scrub plant community provides suitable foraging and nesting habitat for year-round and seasonal avian residents, as well as migrating songbirds that have adapted to conditions in the Mojave Desert. A pre-construction nesting bird clearance survey shall be conducted within three

(3) days prior to ground disturbance to ensure no nesting birds will be impacted from project implementation.

Wildlife Corridors and Linkages

According to the San Bernardino County Wide Policy Plan, the project site has not been identified as occurring within a Wildlife Corridor or Linkage. Although partially constrained by existing mining facilities, the open and natural habitats on and surrounding the project site allow for local wildlife to move from the project site into the undeveloped areas surrounding the project site in search of food, shelter, or nesting habitat.

The project site does not function as a major wildlife movement corridor or linkage. As such, implementation of the proposed project is not expected to have a significant impact to wildlife movement opportunities or prevent local wildlife movement through the area since there is ample habitat adjacent to the project site to support wildlife movement opportunities.

State and Federal Jurisdictional Waters

The project site was evaluated for the presence of jurisdictional waters of the United States, waters of the State, and/or jurisdictional streambed. Several unnamed ephemeral drainage features were observed within the boundaries of the project site during the field delineation. All of the onsite drainage features generally flow in a west to east direction across the project site and south to north across the site. These features only convey surface flow in direct response to precipitation, and do not support riparian vegetation. All of the onsite drainage features, after flowing offsite, eventually infiltrate into dry lakebeds. The onsite drainage features do not have a surface hydrologic connection to downstream waters of the United States. The onsite drainage may fall under the regulatory authority of the Regional Board as waters of the State, and, potentially, CDFW as jurisdictional streambed.

The onsite drainage features exhibit characteristics consistent with the Regional Board's and CDFW's methodology and may be considered jurisdictional waters of the State. Approximately 7.2 acres (6,430 linear feet) of non-wetland waters of the State and CDFW streambed occur onsite. Direct impacts to onsite jurisdictional areas will likely require a Regional Board Report of Waste Discharge permit prior to project implementation, and a CDFW Section 1602 Lake or Streambed Alteration Agreement.

Special-Status Wildlife

According to the CNDDB, ten (10) special-status wildlife species have been reported in the six quadrangles in and around the project site (refer to Appendix A). No special-status wildlife species were observed onsite during the surveys. Based on habitat requirements for specific species and the availability and quality of onsite habitats, it was determined that the proposed project site has a moderate potential to support desert tortoise and burrowing owl (*Athene cunicularia*), and a low potential to support golden eagle (*Aquila chrysaetos*), prairie falcon (*Falco mexicanus*), and loggerhead shrike (*Lanius ludovicianus*). Further it was determined that the project site does not provide suitable habitat for any of the other special-status wildlife species known to occur in the area since the project site.

Nesting Birds, Burrowing Owl and Raptors

In order to ensure impacts to the aforementioned bird species do not occur, the following condition to comply with the Migratory Bird Treaty Act (MBTA) and Fish and Game Code is required:

> *Construction activities and/or the removal of any trees, shrubs, or any other potential nesting habitat should be conducted between September 1 and January 31 outside the avian nesting season. Nesting birds are protected pursuant to the MBTA and California Fish and Game Code (Sections 3503, 3503.3, 3511, and 3513 of the California Fish and Game Code prohibit the take, possession, or destruction of birds, their nests or eggs).*
>
> *If construction occurs inside the peak nesting season (between February 1 and August 31), a pre-construction survey by a qualified Biologist shall be conducted within 72 hours prior to construction activities to identify any active nesting locations. If the Biologist does not find any active nests, the construction work shall be allowed to proceed. The biologist conducting the clearance survey shall document a negative survey with a report indicating that no impacts to active avian nests shall occur.*
>
> *If the Biologist finds an active nest within the pre-construction survey area and determines that the nest may be impacted, the Biologist shall delineate an appropriate buffer zone around the nest. The size of the buffer shall be determined by the Biologist and shall be based on the nesting species, its sensitivity to disturbance, expected types of disturbance, and location in relation to the construction activities. These buffers are typically 300 feet from the nests of non-listed species and 500 feet from the nests of raptors and listed species.*

Desert Tortoise

During the initial field survey, several potential desert tortoise burrows were observed. Due to the sign observed during the initial field investigation desert tortoise focused presence/absence surveys were conducted on October 29, 2020 and May 14, 2021. Despite a systematic search of the project site, no live tortoises or signs were observed on the project site during the presence/absence survey. The plant communities found on the project site and onsite topography provide suitable foraging and burrowing habitat for desert tortoises. However, based on the results of the focused survey, desert tortoise is presumed absent from the project site.

It should be noted that there are eight (8) known locations of desert tortoise in the area that have been relocated in the vicinity of the proposed project site from the 29 Palms Military Base, located outside of the proposed project boundaries.

Out of an abundance of caution, a pre-construction desert tortoise clearance surveys should be conducted prior to ground disturbing activities for mining and exploration activities to ensure no desert tortoise occur within the limits of disturbance and typical desert tortoise protection measures should be implemented.

- *A pre-construction clearance survey shall be conducted thirty (30) days prior to ground disturbing activities in undeveloped areas to confirm the absence of desert tortoise within*

the boundaries of the survey area. Although not anticipated, if desert tortoise are found onsite in an area to be disturbed during the pre-construction clearance survey, coordination will need to occur with the USFWS and CDFW to determine if avoidance and minimization measures can be implemented to avoid any direct or indirect impacts to desert tortoise, or if "Take" permits will need to be obtained prepared and approved by the USFWS and CDFW.

- *Worker/employee desert tortoise education program provided prior to working onsite;*
- *Disturbance shall be confined to the smallest practical areas;*
- *Vehicle speeds shall not exceed 25 miles per hour onsite;*
- *Cross-country travel with motorized vehicles outside of the project area by project personnel is prohibited;*
- *Vehicles and equipment parked shall be inspected immediately prior to being moved.*
- *To the extent possible, new disturbances on undisturbed areas shall be scheduled when tortoises are inactive (November 1 - March 15);*
- *All trash and food items shall be promptly contained within closed, common raven-proofed containers; and*
- *Firearms, dogs, or other pets shall be prohibited at the work site.*

With implementation of a pre-construction nesting bird clearance survey, impacts to these special-status species will be less than significant and no mitigation will be required.

Critical Habitat

Under the federal Endangered Species Act, "Critical Habitat" can be designated and refers to specific areas within the geographical range of a species at the time it is listed that include the physical or biological features that are essential to the survival and eventual recovery of that species.

The project site is not located within federally designated Critical Habitat. The closest Critical Habitat designation is located approximately 18.5 miles northwest of the site for desert tortoise. Therefore, no loss or adverse modification of federally designated Critical Habitat will occur from implementation of the proposed project.

2.5 RECLAMATION

Bagdad Chase proposes to reclaim the site to meet SMARA requirements implemented by the County that will minimize impacts to the surrounding environment and provide public safety. The objectives of this Reclamation Plan are to:

- Reduce environmental impacts from mining operations;
- Reclaim to a usable condition for post-mining end uses which will include open space/habitat;

- Backfill pit with available overburden and revegetate disturbed areas to return biological productivity and to minimize aesthetic impacts; and
- Reclaim the site as necessary to eliminate hazards to public health and safety.

Because of the phased nature of the mining development, reclamation concurrent with mining only can occur to a limited degree for safety and logistical reasons. Concurrent reclamation starts with the initiation of mining and development of new mine areas, roads or new overburden stockpiles and includes the following:

- Pre-development plant surveys to mark specific plants and cacti for salvaging;
- Salvaging seeds and re-locatable plants and cuttings for re-planting to available reclamation areas during clearing of areas to be developed;
- Stockpile available surface material for future revegetation in separate identified stockpiles seeded with an erosion control ground cover, water sprayed to create a crust, and/or covered with a larger rock material to limit wind and water erosion;
- Using a portion of the mine pit footprint for overburden placement;
- During operations, sloping and grading of mine and stockpile slopes for safety, slope stability, and erosion control;
- Backfill the Main Pit in a phased manner during operations with available overburden and complete backfill after termination of mining; overburden stockpiles will be completely removed.

  All waste rock extracted from the east side of the Main Pit will be sent to the West OB stockpile to make adequate room for backfill inventory. Once the pit has been excavated to it final depth in an east to west direction, final backfile inventory will be made available for backfill while still providing a safe working condition. The backfill process will avoid rehandle and expedite the reclamation process. A model has already been designed with computer modeling to take into account the ore and aggregate removed, material swelling , and compaction. The PMT is designed to blend reclaimed surfaces into adjacent undisturbed lands; control reclamation costs by using available overburden materials (optimize cut/fill balance); utilize salvaged soils for soil cover adequate to support revegetation; create a stable fill taking into account swelling and compaction; and reestablish drainage channels.

  The PMT will be a guide and reference during the concurrent backfilling in the pit. The reason for this is to promote dump efficiency as well as decreasing the time that disturbed areas will go from mining into final reclamation. Once material is dumped close to the PMT design a dozer will then push and regrade the ground, promoting compaction and laying a firm base to help support the topsoil that will be laid on top of the reclaimed material. This methodology will avoid the straight hauling of material to waste stockpiles and help ensure that we are efficient and effectively satisfying the requirements of SMARA to re-establish post mining topography.
- Ripping of compacted areas and roads to be reclaimed prior to revegetation;
- Covering disturbed areas with salvaged soil and alluvium overburden to aid in revegetation;

- Revegetation – imprinting seeds and broadcast seeding followed by covering seed with layer of soil or alluvium by pulling chains or screens over the broad cast seeded area;
- Upon completion of mining, remaining equipment, any structures, and internal roads not needed for site access will be reclaimed, and
- Monitoring and remediation until success criteria achieved.

The development of the mine and timing for reclamation are linked to operational parameters, product demand, and phased operations as shown on Sheet 4. Mining operations experience unscheduled development changes due to market/economic demands and variation in ore. The County will be updated in the annual monitoring report on the status of operational and reclamation timing.

Reclamation will include the removal of all equipment, any structures, and debris from the site. Any remaining overburden or aggregate stockpiles will be backfilled into the pit and graded for positive drainage. Compacted surfaces will be loosened by mechanical means and the entire site, onsite roads, stockpile areas, and the pit footprint, will be reseeded with native plant species. The Bagdad Chase Mine will cover approximately 111 disturbed acres including exploration roads and drill pads which will be reclaimed except for the access road, drainage channel, and internal mine roads needed for access for revegetation and site maintenance (about 8 acres not to be revegetated). Mining of the pit could continue until 2151.

Because the pit will be backfilled, there will be no steep slopes remaining. If the pit is not completely backfilled, any perimeter slopes will be filled to 2H:1V. If needed, a protective berm will be maintained around the pit rim and shall be posted with warning signs of steep slope hazard. The ends of any remaining benches will be blocked with large rock (larger than ¼ ton) to prevent access. Refer to Figure 5 and Sheet 3 for the Reclamation Plan.

The overburden stockpiles and any remaining aggregate or ore will be pushed back into the pit; the stockpile areas graded and ripped as needed, covered with salvaged soil and revegetated.

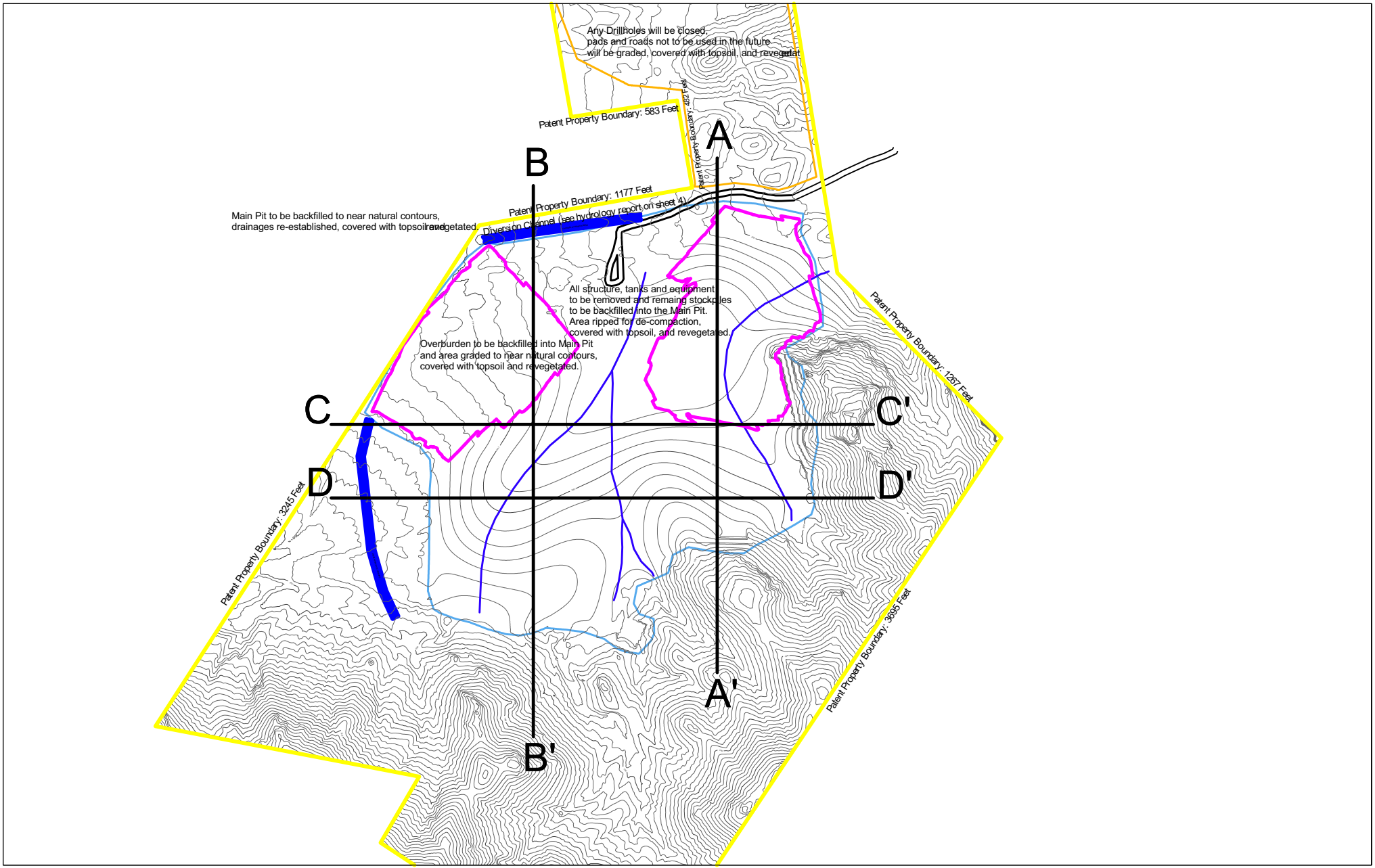
The access roads will be left onsite for use during revegetation and monitoring activities and for overall future site access and public safety as shown on the Reclamation Plan. Roads not needed for site and mine access will have any road base material removed, surface ripped and covered with available soil and revegetated. Other onsite roads needed for mine access will be reclaimed after reclamation of quarries and stockpiles to allow access to all reclamation areas.

2.6 REVEGETATION

A *Revegetation Plan* for the Bagdad Chase Mine was prepared by ELMT Consulting (June 2021) and is included as Appendix B. It includes detailed procedures and methodologies for the revegetation effort. This section includes a summary of the Revegetation Plan.

Existing Baseline Vegetation

The existing vegetative conditions of the site were documented by a biological survey included within the *Revegetation Plan*. Only one native plant community is found within the proposed mining areas, a Larrea tridentata-Ambrosia dumosa shrubland alliance (Creosote bush scrub)



See Sheet 3

RECLAMATION PLAN

Bagdad Chase Mine

County of San Bernardino, California

LILBURN CORPORATION

THE BAGDAD CHASE MINING COMPANY

FIGURE 5

which is homogenous throughout the expansion area with only minor variations in composition associated with changes in landforms upland terrain with gentle to moderate slopes and ephemeral drainages/erosion channels that are commonly defined dry washes.

In order to accurately define the existing plant community composition and to be able to adequately measure the success of the revegetation over time, plant transects were conducted using the point intercept methodology to document baseline conditions. ELMT biologists used the Releve methodology to select representative transect locations. The Releve methodology allows a biologist to use their knowledge of an area and the habitat(s) found within that area to subjectively select transect lines or locations as representative of that habitat(s) rather using other methodologies that require a large number of randomly generated transects in order to ensure that sample size is sufficient to adequately represent habitat(s) in the area.

The creosote plant community is homogenous across most of the project site, with some minor vegetative variation associated with areas of different landforms or topographic relief. On the project site, two landforms were identified: gently to moderate sloping terrain and ephemeral drainages/erosion channels that are commonly defined desert dry washes. Five transect locations were selected as representative of the two landforms: three transects in the upland habitats associated with gentle to moderate slopes and two transects in the desert dry washes.

The information collected was used to document the species present, percent vegetative cover, species density and species diversity as part of documenting baseline conditions within each landform. Baseline vegetation within in each line was sampled using the point-intercept method (California Native Plant Society 2014). Each transect was 50 meters long and 1 meter wide. All native and non-native plant species within a 50-meter square transect were recorded and are presented in Table 6. Additionally, a transect line was stretched down the center of each transect and plant species, native and non-native, that were intercepted by the line were noted and recorded at half-meter (1.6-foot) intervals. Refer to the Revegetation Plan in Appendix B for additional transect data.

Table 7 show the results of the plant transect data gathered onsite in terms of cover, density and species richness. The revegetation effort will focus on the perennial pioneer shrubs, herbs, and annuals that aid in providing organic material, holding moisture, and breaking up the surface.

Revegetation

To implement revegetation, it is recommended that all native seeds be used during the revegetation effort. Therefore, native seed should be collected onsite or from similar areas of undisturbed Mojavean Desert scrub habitat located adjacent to the active mine site. If needed to augment seed collection, native seeds may be purchased from commercial suppliers.

Table 6
Plants Identified Within Each Transect

Plant Species	Transects				
	Upland Habitat			Desert Dry Wash	
	1	2	3	4	5
Native Perennials					
Acacia greggii (catclaw)		X			X
Ambrosia Dumosa (burrobush)	X	X	X	X	X
Ambrosia Salsola (cheesebush)				X	X
*Bebbia juncea (*sweetbush)		X	X	X	X
Encelia farinose (brittlebush)	X	X	X	X	
Ephedra californica (desert tea)		X			
Eriogonum inflatum (desert trumpet)	X	X	X	X	X
Escobaria vivipara (desert pincushion)		X			
Larrea tridentata (creosote)	X	X	X	X	X
Psorothamnus spinosus (smoke tree)		X			X
Native Annuals					
Camissonia californica (CA suncup)	X	X	X		
Chorizanthe ridgida (spineflower)		X			
Crypthanta sp.	X	X	X	X	X
Eriogonum gracile (rose/white buckwheat)				X	X
Non-Native Species					
Schismus barbatus (Mediterranean grass)	X	X			

Source: *Revegetation Plan*, ELMT Consulting June 2021

Table 7
Plant Community Composition (Native Perennials) (per 50 m^2)

Transect / Landform	Perennial Percent Cover	Native Species Density	Native Species Diversity
1, 2 & 3 (ave.) (Upland habitat)	33%	46%	12
4 & 5 (ave.) (Desert wash)	31%	45%	10

Source: *Revegetation Plan*, ELMT Consulting June 2021

The following procedures will be implemented prior to when an area is cleared or developed:

- Conduct plant surveys to mark sensitive and protected plants and cacti for salvaging; (Note that there are no western Joshua trees onsite);
- Salvage re-locatable plants and cuttings for re-planting to available reclamation areas; and
- Stockpile available surface material for use as a seed bed and bank in separate identified stockpiles seeded with an erosion control ground cover or covered with a larger rock material to limit wind and water erosion.

Plant Palette

The seeds to be used for revegetation purposes include species that are either present on the site already or are present in the surrounding area as part of the creosote bush plant community. The proposed plant palette is based on native species found in this plant community in the area, not just the species identified in the plant transects. The list may be revised based on the information collected from the reference site at the time of revegetation. While the shrubs will eventually dominate a habitat type, the forbs and annuals provide early successional species that stabilize the soil and help shelter slower-growing woody shrubs. See Table 8 for proposed species to be seeded onsite.

Table 8
Proposed Native Plant Species for Seeding

SPECIES		POUNDS PER ACRE
SCIENTIFIC NAME	**COMMON NAME**	
Ambrosia dumosa	Burrobush	2.50
Ambrosia salsola	Cheesebush	2.50
Amsinckia tessellata	Fiddleneck	0.25
Cammisonia californica	Evening primrose	0.25
Chorizanthe rigida	Rigid spineflower	0.25
Chaenaetis fremontii	Desert pincushion	0.25
Ericameria nauseous	Rabbitbrush	3.00
Ericameria linearifolia	Narrow leaf goldenbush	0.75
Eriogonum fasciculatum	Flat-topped buckwheat	2.00
Eriogonum gracilei	Slender woolly buckwheat	0.50
Gilia spp.	Gila	0.25
Larrea tridentata	Creosote bush	3.00
Malacothrix glabrata	Desert dandelion	0.75
Mentzelia affinis	Blazingstar	0.50
Phacelia distans	Phacelia	0.25
Salvia columbariae	Chia	0.25
Stephanomeria exigua	Small wirelettuce	0.25
	TOTAL pounds per acre	**17.50**

Source: Revegetation Plan, ELMT Consulting June 2021

Site Preparation

The following procedures will be implemented for site preparation and seeding:

- Secure the site from unauthorized impacts;
- Remove trash, equipment, and debris;
- Remove non-native invasive plant species;
- Rip or scarify compacted areas including closed roads to a 0.5-foot minimum depth with surface rills and furrows left to aid in water and wind-blown seed collection;
- Place soils that have been stockpiled partially mixed with underlying scarified material;
- Seed with locally native species either collected or purchased commercially as needed and revegetate per methods described below and as listed in Table 8;

- Stake or flag reclaimed areas to eliminate additional disturbance;
- Monitoring and maintenance; and
- Application of remedial activities, if necessary, including but not limited to additional seeding and planting with mycorrhizal, plant protection and change of seed mix.

Seeding

Seeds will be distributed throughout an area scheduled for revegetation during the rainy season, generally between October 1 and January 30, or during a suitable period based on weather forecasts and rainfall.

Broadcasting will be conducted by hand and therefore should not occur when there are detectable winds that might carry seed away from its intended location. Seed should be broadcast twice: first, half of the seed should be spread while moving in one direction, and then the other half of the seed should be spread while moving perpendicular to the original direction. Seeds will be hand raked or mechanically covered by a tractor with a chain attachment.

Seed can be mixed with wheat bran or another approved substitute to aid in application and the prevention of seed segregation. In addition, mycorrhizal fungi can be applied to the seeds where necessary, particularly in highly disturbed areas where plants may otherwise have difficulty growing. The restoration contractor shall determine the appropriate mixing ratio of the seed to the binder and/or mycorrhizae, if used.

Test Plots

The use of test plots is recommended to provide valuable data for the revegetation efforts. Two general topographic aspects were identified within the creosote bush scrub plant community: gently to moderately sloping upland areas and ephemeral drainages/erosion channels that are commonly defined dry washes.

The operator shall establish a minimum four-100 m^2 test plots representative of where mining will occur in areas consisting of creosote scrub habitat. Test plots would include surface ripping/no seeding (control plot); surface ripping, soil cover/no seeding; surface ripping, soil cover/seeding as described above; and surface ripping, soil cover/seeding as described above using mycorrhizal fungi. Additional tests would be conducted if the initial tests and any active revegetation are not successful and may include various types and amounts of seeds and different surface/soil preparation.

Irrigation

The revegetation planned for the site utilizes native seeds. The average precipitation in the area should be sufficient for seed germination and root establishment of native species. Irrigation will be only conducted by hand as needed (up to 3 years) for those transplanted yucca and cacti to allow the salvaged plants to receive adequate moisture to become established but to not create a dependence on artificial irrigation.

Fertilization

No fertilization of the site is recommended. All revegetation will utilize native seeds tolerant to existing soil conditions.

Non-Native Invasive Weed Control

The purpose of the non-native invasive species control plan is to reduce or limit the occurrence of non-native invasive plant species that may invade the site where active and natural revegetation is taking place. Non-native invasive species (weeds) can compete with native plant species for available moisture and nutrients and consequently interfere with revegetation of the site.

A review of the data from the baseline vegetation inventory, non-native vegetation, although present, was found to occur at a low enough level, 1% or less. *Schismus barbatus* was the only non-native species identified in the transects. All non-native populations, if they become established, should be removed prior to revegetation. Manual clearing would be the suggested method. A second method would be the use of approved herbicides, depending on the species and the extent of the infestation. One or both of these methods could be used to accomplish this task. The selection of method(s) to be used will be site specific and made by the qualified Biologist in concert with Bagdad Chase Mines and San Bernardino County. All efforts to remove non-native species will be overseen by a qualified Biologist to ensure the level effort addresses the issue.

If manual clearing is used, the Biologist will ensure all non-native, exotic, or invasive plant material is gathered into appropriate storage containers (drawstring plastic trash bags are acceptable), removed from the Site, and deposited at an approved disposal facility (a landfill is acceptable) to prevent the introduction and establishment of those species to new areas. If herbicides are used, the appropriate herbicide will be selected by the Biologist in consultation with Bagdad Chase Mines and San Bernardino County. At this time, it is anticipated the herbicide to be used will be Fusillade and Roundup (glyphosate). The Biologist would also oversee their application.

The occurrence of non-native species onsite after revegetation shall be monitored by visual inspection semi-annually for the first two years and then annually thereafter. The goal is to prevent non-native invasive species from becoming established and depositing seeds in revegetated areas. Reports of inspections and weed control implementation shall be part of the revegetation monitoring as detailed and kept on file by the operator.

Success Criteria

Composition of the native creosote scrub plant community was determined using vegetation transects conducted within of the existing, undisturbed native habitat. Vegetation composition data, a series of performance standards or success criteria were derived. Success criteria for native perennial shrub cover was based on 45% of baseline values, while species density and species diversity were based on 40% of baselines values. Fulfillment of the performance standards is expected to indicate that revegetated areas are progressing toward the long-term goal

of becoming a functioning, self-sustaining creosote scrub plant community. Refer to Table 9 for the Plant Species Composition and the Performance Standards.

Table 9
Revegetation Performance Standards or Success Criteria*
(45% of Baseline Cover, 40% of Baseline Species Density/Diversity)

Landform	Upland Habitat	Dry Wash
Perennial Cover (%)	15	14
Species Density (%)	18	18
Species Diversity	5	4

*Native perennial shrubs from the 2021 baseline surveys per 50 m^2.

Source: Revegetation Plan, ELMT Consulting June 2021

Revegetation Monitoring and Remediation

Revegetation monitoring will be conducted for three purposes: 1) to ensure that the site preparation, seeding and weed eradication follows the Revegetation Plan (implementation monitoring), 2) to evaluate native plant establishment and vigor, and to identify and make recommendations for correcting problems (qualitative monitoring) and 3) to quantitatively measure development of the creosote bush scrub habitat (quantitative monitoring) to determine its progress with respect to the established success criteria. The success of the revegetation effort will be measured primarily by the analysis of the quantitatively collected data compared to the success criteria. The Annual Revegetation Report will be prepared to summarize revegetation and monitoring efforts over the past year and to assess the results of revegetation on the disturbed areas of the site. Monitoring will continue until success criteria have been achieved.

2.7 CLEANUP

At the completion of mining activities, clean-up, backfilling, and revegetation will be conducted within five years of the termination of mining. All equipment and structures will be removed within one year recycled, and/or disposed of at an appropriate landfill site (e.g., Barstow Landfill). Excess material stockpiles will be used for backfilling and regraded for positive drainage, scarified, and revegetated.

There are no wells onsite to be closed. If any portals, shafts, tunnels or openings remain on the reclamation site after mining and backfilling, they will be either closed, or gated and protected from public entry but preserved for bat and other wildlife if appropriate with County consultation.

2.8 POST RECLAMATION AND FUTURE MINING

The reclaimed site will allow for future exploration and development of additional reserves located on both patented lands and unpatented claims outside of the backfilled Main Pit. The reclaimed site will not preclude or necessitate any future mining activities or surface modification.

2.9 SLOPE AND SLOPE TREATMENT

Refer to the slope stability discussion in Section 1.1, pages 13-15, above and in Appendix C.

2.10 PONDS, WASTES

No water is used in ore processing or for washing except for dust control. Therefore, no wastewater is produced and no ponds are needed. The overburden material will be stockpiled and backfilled as shown on the mining and reclamation plan sheets and in accordance with PRC, Section 2773.3 and CCR, Section 3704.1 (h).

2.11 SOILS

Onsite surface elevation ranges from approximately 1,780 to 2,550 feet above mean sea level. Topography onsite generally consists of flat desert dry wash areas, rolling hills and several steep sided hilltops and ridgelines located across the survey area. There are several portions of the project site that have previously been mined resulting in further areas of topographic relief. Based on the NRCS USDA Web Soil Survey, the project site itself is not mapped and the greater area in the vicinity of the site is underlain by Rositas-Carrizo and Upspring-Sparkhule-Rock outcrop complexes. Soils within the southern portion of the survey area around the existing mine have been mechanically disturbed and compacted from mining activities and recreational off-highway vehicle activities. The portions of the survey area that do not occur adjacent to mining areas are relatively undisturbed.

If additional soil is needed for revegetation, onsite materials will be crushed and utilized for cover material.

2.12 DRAINAGE AND EROSION CONTROLS

Due to the hard bedrock material and low rainfall (less than 4 inches/year) the site has little potential for erosion and sedimentation. Control of surface drainage, erosion, and sedimentation of the operations involves the following primary components:

- Limiting surface disturbance to the minimum area required for active operations;
- Diverting drainages and runoff from flowing into the mine pit and into natural drainages down gradient; and
- Stabilizing disturbed areas through backfilling, regrading, replacement of soils, revegetation, re-establishing drainages, and erosion control practices.

All operations onsite will comply with a SWPPP to be updated periodically with mine site development and implementation of storm water BMPs. The mine will be cut into bedrock and precipitation falling within the mine will be allowed to flow into the mine and percolate or evaporate during operations. After backfilling the pit, drainages will be re-established to flow through the site to natural drainages down gradient to the east. The diversion channel will be left in place.

Long-term stabilization or reclamation will generally involve final backfilling of the pit, grading disturbed areas, establishing effective drainage, placement of soil, and revegetation. Following reclamation, surface runoff will flow into natural drainages.

2.13 PUBLIC SAFETY

All equipment and debris will be removed from the site upon project completion. Access to the site will be controlled with locked gates, signage, and blocked secondary access roads. The pit will be backfilled and the overburden stockpiles removed for the backfill material; therefore no steep slopes will remain onsite.

Mine areas will have warning signs every 500 feet, dirt roads not used will be blocked or closed, and safety berms six feet in height will be constructed along any remaining pit rims where the public could access. Any unauthorized roads will be blocked or closed permanently at the property boundary.

Numerous portals, shafts, tunnels or openings located in the planned operations area will be "mined" out reducing public safety concerns. Any portals, shafts, tunnels or openings that remain on the mining site after mining and backfilling, will be either closed or gated and protected from public entry but preserved for bat and other wildlife if appropriate with County consultation.

2.14 MONITORING AND MAINTENANCE

Monitoring will include both site monitoring to assess control, trash dumping and other forms of human disturbances, as well as biological monitoring of revegetation progress. Site monitoring of human use (access, trash dumping and off-road vehicle use) includes monthly inspection by Bagdad Chase personal to check access control and signs and to schedule removal of illegal dumping. Biological monitoring will be conducted to qualitatively and quantitatively evaluate overall conditions of the revegetated site with respect to native plant conditions, weed growth and control effectiveness as detailed in Section 2.6 above and Appendix B.

SMARA requires annual reporting of Mining and Reclamation activities and an annual inspection by the County, the lead agency. The reports are filed with the State Division of Mine Reclamation and the County. Revegetated areas will be monitored over a 5-year period or until success criteria is achieved following initial seeding and/or planting. Data on plant species diversity, cover, survival and vigor will be collected on revegetated sites and compared to baseline data from undisturbed sites to evaluate project success and documented in an annual report.

Monitoring and maintenance of reclamation is an ongoing responsibility of Bagdad Chase. The project site will be inspected annually by the County.

In addition, CEQA requires adoption of a reporting and monitoring program for the conditions of approval of a project that are intended to mitigate or avoid significant adverse environmental effects. The County program is intended to ensure compliance with mitigation measures throughout the life of the approved Project. The program will identify the conditions of approval that act as mitigation measures and will outline who is responsible for implementation and verification for each measure.

2.15 RECLAMATION FINANCIAL ASSURANCE

Once the proposed revision to the reclamation plan is approved by San Bernardino County, Bagdad Chase will post a reclamation financial assurance in an amount sufficient to pay for the cost of reclamation for the first year of planned operations and estimated area disturbance as outlined in Section 2. The reclamation financial assurance shall be reviewed by the County annually as required by SMARA. San Bernardino County is the lead agency for SMARA compliance and will review the Reclamation Assurance and inspect the mine site annually.

STATEMENT OF RESPONSIBILITY

The statement of responsibility for the reclamation of the site (below) will be signed by Bagdad Chase's representative and will be included as a separate form upon project approval.

I, the undersigned, hereby agree to accept full responsibility for reclamation of all mined lands as described and submitted herein and in conformance with the applicable requirements of Articles 1 and 9 (commencing with Sections 3500 et. seq. and 3700 et. seq., respectively) of Chapter 8 of Division 2 of Title 14 of the California Code of Regulations, the Surface Mining and Reclamation Act commencing with Section 2710 et. seq., and with any modifications requested by the administering agency as conditions of approval.

Signed this_____ day of _____ , 2021 by:

Signature: _____Title: _____

Printed Name: _____

3.0 GEOLOGY

The geology of the Bagdad Chase project has been studied by multiple sources including Joseph S. Polovina *Mineralized Hydrothermal Breccias In The Stedman District San Bernardino County, California (1987).* Mineralization exists as a hydrothermally altered breccia. The Tertiary breccia exists between two rhyodacite units as a sill and also is contained along fault structures. Three potential faulting geometries may be present at this deposit as normal faults trending to the northwest, listric detachments trending the northeast and strike/slip faulting crossing the two other fault orientations. The right lateral strike/slip faults can create detachments and "tear aparts" which will reactivate fluid mobilization. This is apparent in the mineralization zoning and up to 4 different pulse events in the ore zones. In addition to the fault mineralization a secondary supergene type of re-mobilization occurs in the upper portion of the mineralized zones. Potential mineral resources for the mine can be gold, silver, copper oxide, aggregate rock, hematite and barite.

The following discussions are from the *Slope Stability Investigation Report for the Bagdad Chase Mine* (Terracon 2021). The geologic units are delineated on the Geologic Maps attached to the *Slope Stability Investigation Report* included as Appendix C in this Reclamation Plan.

The Bagdad Chase Mine is located in San Bernardino County, south of Ludlow, California The site is accessed via Bagdad Chase Road. The Mojave Desert is dominated by broad alluviated basins that receive sediments from adjacent uplands that bury the older topography. Playa lakes (internally drained) are a common feature of the region. The site is located in the eastern foothills of the Bullion Mountains, an area of moderate to steep slopes and moderate relief formed in Tertiary age volcanic and sedimentary rocks. An alluviated plain surrounds bedrock outcrops in the project area and is dominated by alluvial sands and gravels (fan sediments) derived from upland terrain to the west and northwest.

Geologic Units

Pitfills (f) and cut slopes are present throughout disturbed areas. An abandoned railroad embankment lies approximately 550 feet northwest of the Main Pit footprint. Fills encompass areas of stockpiles and creation of access roads. These include safety berms, mine fills, overburden stockpiles and debris. These areas were not observed in detail during the mapping. Fills and disturbed ground are visible in aerial imagery. A stockpile approximately 3 acres in size is located north of the Main Pit area.

Recent wash deposits (Qw) associated with eastward draining, active channels lie within and form a channel along the toe of a bedrock slope in the southwest portion of the Main Pit area. This channel trends toward disturbed ground associated with past mining. Wash deposits include minor amounts of reworked spoils from former mine workings.

Younger alluvial fan (Qf) sediments are present in channels and as isolated areas within the Main Pit area. These sediments are derived from local highland sources.
Andesite porphyry of Dibblee (2008) (Tap) forms the majority of bedrock outcrops in the mine areas. As described by Dibblee, this unit ranges to dacite porphyry and quartz latite porphyry. Colors vary from greenish, pinkish to brownish-gray. Fabric is massive to faintly flow-laminated

with mostly plagioclase phenocrysts in subvitreous to microcrystalline groundmass. The rock forms dark brown, irregular intrusive masses and volcanic outcrops with blocky structure.

Andesite porphyry (Tah) forms more subdued terrain (due to less resistance to weathering/erosion) and is visible in aerial imagery as tan colored low-lying outcrops surrounded by younger alluvial fan sediments. Tah is similar to Tap but hydrothermally leached, light brown, softer and more porous than Tap with altered feldspars. This unit lies beneath a thin veneer of sediment in the western portion of the Main Pit footprint. The contact between Tap and Tah is the main ore-bearing zone of the mine area and includes brecciated zones.

Geologic Structure

Geological structure within and adjacent to each proposed pit area was examined and measured in the field using electronic mapping methods. Geological structural features evident in the Main Pit include:

- Crude flow banding defined by thin mineralized veins and layering in andesite.
- Smooth and polished low- to moderate-angle joint surfaces locally within andesite
- Mineralization/brecciation in the contact zone between andesite (Tap) and hydrothermally altered andesite (Tah) units
- Moderate- to low-angle, laterally continuous joints in andesite formed along flow banding (expressed as laterally continuous features in ridgeline at east side of Main Pit)
- Steep joints oriented orthogonal to flow banding in native andesite outcrops forming standing column type outcrops with topple potential
- Shear zones/faults –steeply northeast and west-dipping with slickensides, commonly with associated mineralized zones and former mine workings; and
- Andesite rock unit with orthogonal blocky joint fabric.

Slope Stability

Refer to Appendix C and Section 1.1, pages 13 - 15 above.

Seismic Considerations (Terracon 2021)

The ground-shaking hazard at the site was evaluated from a deterministic standpoint for use as a guide to formulate an appropriate seismic coefficient for use in slope stability analysis. The deterministic calculation of peak ground acceleration (PGA) was made using attenuation relations of Abrahamson and others (2014), Boore and others (2014), Campbell and Bozorgnia (2014) and Chiou and Youngs (2014).

The site is located northeast and south of fault seismic sources. The Pisgah-Bullion Fault (Lavic Lake segment) ruptured in the 7.1-magnitude Hector Mine earthquake in October 1999 with an epicenter approximately 9 kilometers west of the project area. A contour map of PGA generated by this event indicates ground acceleration on the order of 0.5g at the site (USGS Earthquake

Hazards Program, 2021). Seismic conditions may influence the stability of slopes and rockfall potential on a time scale that postdates most planned mine reclamations. Rockfalls are a common occurrence after major earthquakes because of strong ground shaking. The Hector Mine earthquake is an example of a seismic event with the potential to cause rockfall at the site.

The simplified procedure of Bray and Travasarou (2009) for selection of critical acceleration (Kh) as one-half PGA is commonly used for slope stability calculations for habitable structures. Their method is not typically required or applicable for pit slope design. Given the project location in an area of moderate to high seismic potential, we used Kh = 0.20, consistent with Bray and Travasarou (2007) and historic seismicity, to approximate one-half the value of PGA from the deterministic calculation for the closest fault, the data from the Hector Mine earthquake, and considering the end use of the site.

4.0 HYDROLOGY

Surface Hydrology

CASC prepared the *Drainage Study* (August 2021) which is included as Appendix D. Discussion below is summarized from this report.

The site is outside of the Mojave River groundwater basin and Mojave River drainage basin (USGS, 2017). The Project is located at the Southeastern edge of a valley and surrounded by hills to the south, west, and north. Topographically, the Main Pit drainage area ranges from approximately 3,400 feet to 2,330 feet above Mean Sea Level. The Project's drainage area is mainly comprised of flows from the nearby hills, where natural rills and gullies have captured, concentrated, and conveyed runoff from the hills towards the Project. Main Pit complex has a proposed 98-acre disturbance area, within an approximate 760-acre drainage area.

A majority of the Project is located on what was once gently sloping alluvium traversed by a wash system. The Project has been historically disturbed by previous mining activities which have realigned the wash channels and diverted storm flows around the site and into the dumps and pits of the historical mining area. There are three major Drainage Areas (A, E and F), that make up the southern Main Pit drainage area, that confluence and eventually discharge at a point (Point 109 on the enclosed hydrology maps; Exhibit A) at the eastern end of the Main Pit disturbance area. Drainage Area B makes up the northern Main Pit drainage area where it discharges north of Drainage Areas A, E, and F at a point (Point 205) on the northeastern end of the Main Pit disturbance area. The Hydrology Study Map (Appendix D, Exhibit A) shows the drainage areas and flow paths used for the analysis and the proposed diversion channel to divert flows around the north site of the pit and operations area and return said flow back into its natural drainage to the east.

The dry washes are subject to surface flows during infrequent but potentially intense rainfall events. There is no evidence of seeps or springs such as surface flow or concentrated vegetation observed within the site.

REFERENCES, ACRONYMS, and GLOSSARY

REFERENCES

Biological Resources Report; ELMT Consulting, June 2021.

Delineation of State and Federal Jurisdictional Waters; ELMT Consulting, June 2021.

Digital Topography; Merrell Johnson Companies, 2020.

Drainage Study for the Bagdad Chase Mine; CASC, August 2021.

Reclamation Plan (84M-022) for Bagdad Chase Quarries; approved by San Bernardino County, May 1984; expired June 1996.

Revegetation Plan; ELMT Consultants, June 2021.

Rules and Regulations; Mojave Desert Air Quality Management District, 2020.

San Bernardino County Wide Policy Plan (November 2020).

Slope Stability Investigation Report for the Bagdad Chase Mine; Terracon Consultants Inc., May 2021.

Surface Mining and Reclamation Act (SMARA); California Department of Conservation, State Mines and Geology Board, January 2020.

ACRONYMS

af	acre-feet
amsl	above mean sea level
BATF&E	Bureau of Alcohol, Tobacco, Firearms and Explosives (federal agency)
BLM	Bureau of Land Management
BMP	Best Management Practices
Cal-OSHA	California Occupational Safety and Health Administration
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNPS	California Native Plant Society
CUPA	Certified Unified Program Agency (Hazardous Materials Division of the San Bernardino County Fire Department is designated as the "CUPA.")
CY, cy	Cubic yards
DEHS	Department of Environmental Health (County)
DMR	Division of Mine Reclamation
DOC	Department of Conservation
FESA	Federal Endangered Species Act

H:V	horizontal to vertical; typically in feet (slope inclination)
MBTA	Migratory Bird Treaty Act (protects nesting birds)
MSHA	Mining Safety and Health Administration
MDAQMD	Mojave Desert Air Quality Management District
PMT	post-mining topography
RWQCB	Regional Water Quality Control Board
SMARA	Surface Mining and Reclamation Act
SPCC	Spill Prevention, Control, and Counter-measure
SWPPP	Storm Water Pollution Prevention Plan
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

GLOSSARY OF TERMS

BACT: Best Available Control Technology – Air quality term used to describe air pollutant control equipment for equipment and facilities that produce air emissions.

Bench: Terrace or leveled area breaking the continuity of a slope. For the Bagdad Chase Mine, the benches will be 25 feet wide every 25 vertical feet with an inter-bench slope of approximately 80°.

Berm: An elongated earthen structure which acts as a barrier; e.g., to make it difficult for a vehicle or ORV to cross along the rim of a quarry/pit or along a haul road, or to redirect the flow of water.

California Environmental Quality Act (CEQA): Policies enacted in 1970, and subsequently amended, the intent of which is the maintenance of a quality environment for the people of California now and in the future.

Endangered species: A species whose prospects of survival and reproduction in the wild are in immediate jeopardy from one or more causes.

Factor of safety: Ratio of forces resisting slope failure over forces driving slope failure.

Fine Particulate Matter: Extremely small air pollutants less than 2.5 microns in diameter and that form primarily from engine combustion sources, not from fugitive dust sources ($PM_{2.5}$).

Haul road: A road used by haul trucks to haul ore and waste rock from the open pit to other locations usually to the processing plant or to stockpiles.

Hazardous material: Substance which, because of its potential for corrosivity, toxicity, ignitability, chemical reactivity, or explosiveness, may cause injury to persons or damage to property.

Hazardous waste: Defined in Section 1004(5) of the federal Resource Conservation and Recovery Act (RCRA) as, "…a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may: (a) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or

incapacitating reversible, illness; or (b) pose a substantial present or potential hazard to human health or the environmental when improperly treated, stored, transported, or disposed of, or otherwise managed."

Hydrogeology: The study of surface and subsurface water.

Ore body: A generally continuous mass of ore distinct from the surrounding rock.

Overburden: Material which does not meet quality specifications and other rock types encountered during excavations which will be hauled directly to overburden stockpiles.

Rare species: A species, which, although not presently threatened with extinction, is in such small numbers throughout its range that it may become endangered if its present environment worsens.

Reclamation: The combined process of land treatment that minimizes water degradation, air pollution, damage to aquatic or wildlife habitat, flooding, erosion, and other adverse effects from surface mining operations (SMARA).

Reclamation Plan: A restoration plan for the stabilization and recovery of a mine site after cessation of mining operations for another use; generally open space or other low intensity use.

Revegetation: Establishment of native vegetation on lands that have been disturbed.

Regional Water Quality Control Board (RWQCB): Agency which administers the requirements of the California Administrative Code, Title 23, Division 3, Chapter 15to ensure the highest possible water quality consistent with all demands.

Sensitive species: A plant or animal species, which is recognized by the government or by a conservation group, as being depleted, rare, threatened, or endangered.

Threatened species: Species, which, although not presently threatened with extinction, are likely to become endangered in the foreseeable future in the absence of special protection and management efforts.

Water table: The upper water level of a body of groundwater.

CROSS REFERENCE MATRIX

Bagdad Chase Reclamation Plan
(CA Mine ID# 91-36-xxxx) & Surface Mining and Reclamation Act

Including reference to:
ARTICLE 1. GENERAL PROVISIONS. SECTION 2710 et seq.
ARTICLE 2. DEFINITIONS. SECTION 2725 et seq.
ARTICLE 3. DISTRICT COMMITTEES. SECTION 2740 – 2741
ARTICLE 4. STATE POLICY FOR THE RECLAMATION OF MINED LANDS. SECTION 2755 et seq.
ARTICLE 5. RECLAMATION PLANS AND THE CONDUCT OF SURFACE MINING OPERATIONS. SECTION 2770 et seq., as amended
CCR TITLE 14 (REGISTER 85, No. 18-5-4-83)
CHAPTER 8. MINING AND GEOLOGY
SUBCHAPTER 1. STATE MINING AND GEOLOGY BOARD
ARTICLE 1. SURFACE MINING AND RECLAMATION PRACTIVE. SECTION 3500 et seq.
ARTICLE 9. RECLAMATION STANDARDS. SECTION 3700 et seq.

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
SMARA 2770.5	100-year flood, Caltrans contact	X		
SMARA 2772 (c) (1)	Name and Address of operator/agent.		5	1.0
SMARA 2772 (c) (2)	Quantity & type of minerals to be mined.		4-5, 8	1.0, 1.1
SMARA 2772 (c) (3)	Initiation and termination date.		5	1.0
SMARA 2772 (c) (4)	Maximum anticipated depth of mining.		8	1.1
SMARA 2772 (c) (5)	Description, including map with boundaries, topographic details, geology, streams, roads, utilities.		1-17, 40-42	1.0, 1.1, 3.0
SMARA 2772 (c) (6)	Mining plan and time, schedule for reclamation (concurrent or phased reclamation).		1-17; 27-29	1.0, 1.1, 2.5
SMARA 2772 (c) (7)	Proposed subsequent use.		36	2.8
SMARA 2772 (c) (8)	Description of reclamation measures adequate for proposed end use.		27-29	2.5
SMARA 2772 (c) (8) (a)	Description of containment control and mine waste disposal.		17-18	1.2

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
SMARA 2772 (c) (8) (b)	Rehabilitation of stream banks/beds to minimize erosion		19-20; 37-38; App. D	1.5; 2.12; App. D
SMARA 2772 (c) (9)	Impact of reclamation on future mining.		36	2.8
SMARA 2772 (c) (10)	Applicant statement accepting responsibility for reclamation per the reclamation plan.		39	2.15
SMARA 2773 (a)	Water quality monitoring plan specific to property.		19-20	1.5; SWPPP
SMARA 2773 (a)	Sediment and erosion control monitoring plan specific to property.		19-20; 37-38	1.5, 2.12
SMARA 2773 (a)	Revegetation plan specific to property. Monitoring Plan.		29-36	2.6; Appendix B
SMARA 2773.1	Performance (financial) assurances.		39	2.15
SMARA 2777	Amended reclamation plans required prior to substantial deviations to approved plans.		Informational only.	
CCR 3502 (b) (1)	Environmental setting and impact of reclamation on surrounding land uses. (Identify sensitive species, wildlife habitat, sensitive natural communities, e.g., wetlands, riparian zones, etc.).		22-27	2.1-2.4
CCR 3502 (b) (2)	Public health and safety (exposure).		16-17; 38	1.1, 2.13
CCR 3502 (b) (3)	Slopes: critical gradient, consider physical properties and landscaping.		11-14; 37	1.1, 2.9
CCR 3502 (b) (4)	Fill materials in conformance with current engineering practice.		17-18; 27-29	1.2
CCR 3502 (b) (5)	Disposition of old equipment		36	2.7
CCR 3502 (b) (6)	Temporary stream and water diversions shown.		19-20	1.5

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
CCR 3503 (a) (1)	Removal of vegetation and overburden preceding mining kept to a minimum.		27-36	2.5 – 2.6
CCR 3503 (a) (2)	Overburden stockpiles managed to minimize water and wind erosion.		17-18	1.2
CCR 3503 (a) (3)	Erosion control facilities (dikes, ditches, etc.) as necessary.		19-20; 37-38	1.5; 2.12
CCR 3503 (b) (1)	Settling ponds (sedimentation and water quality).	X		
CCR 3503 (b) (2)	Prevent siltation of groundwater recharge areas.		19-20; 37-38	1.2; 1.5
CCR 3503 (c)	Protection of fish and wildlife habitat (all reasonable measures).		23-27	2.4; App. A
CCR 3503 (d)	Disposal of mine waste and overburden (stable-no natural drainage restrictions without suitable provisions for diversion).		17-20	1.2; 1.5
CCR 3503 (e)	Erosion and drainage (grading to drain to natural courses or interior basins).		19-20	1.5; App. D
CCR 3503 (f)	Resoiling (fine material on top plus mulches).		27-36	2.5, 2.6
CCR 3503 (g)	Revegetation and plant survival (use available research).		29-36	2.6; App. B
CCR 3703 (a)	Sensitive species conserved or mitigated		22-27	2.3; 2.4
CCR 3703 (b)	Wildlife habitat at least as good as pre-project, if approved end use is habitat.		23-36	Wildlife Desc. 2.4; 2.5; Reveg. 2.6
CCR 3703 (c)	Wetlands avoided or mitigated at 1:1 minimum	X	---	---
CCR 3704 (a)	For urban use, fill compacted in accordance with UBC or local grading ordinance.	X	---	---
CCR 3704 (b)	For resource conservation, compare to standard for that end use		27-36	2.5; 2.6

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
CCR 3704 (c)	Mine waste stockpiled to facilitate phased reclamation and separate from growth media.		27-36	2.5; 2.6
CCR 3704 (d)	Final reclamation fill slopes not exceed 2:1, except when engineering and revegetation analysis allow.		27-29; 37	2.5; 2.9
CCR 3704 (e)	Final landforms or fills conform with surrounding topography or end use.		27-29; 37	2.5; 2.9 App. C
CCR 3704 (f)	Cut slopes have minimum factor of safety for end use and conform with surrounding topography.		11-14; 27-29	1.1; 2.5; 2.9
CCR 3704 (g)	Piles or dumps not placed in wetlands without mitigation.	X	---	---
CCR 3705 (a)	Vegetative cover, suitable to end use, self-sustaining. Baseline studies documenting cover, density and species richness.		29.36	2.6 App. B
CCR 3705 (b)	Test plots if success has not been proven previously		29-36	2.6
CCR 3705 (c)	Decompaction of site.		27-36	2.5; 2.6
CCR 3705 (d)	Roads stripped of road base materials, resoiled and revegetated, unless exempted.		29-36	2.6
CCR 3705 (e)	Soil altered or other than native topsoil, required soil analysis. Amend if necessary.		29-36	2.6
CCR 3705 (f)	Temporary access not bladed. Barriers installed.	X	---	---
CCR 3705 (g)	Use native plant species, unless exotic species meet end use.		29-36	2.6
CCR 3705 (h)	Plant during correct season.		29-36	2.6
CCR 3705 (i)	Erosion control and irrigation, when necessary.		29-36	2.6
CCR 3705 (j)	If irrigated, demonstrate self-sustaining without for two-year minimum.	X		.
CCR 3705 (k)	Weeds managed.		29-36	2.6; App. B29-36
CCR 3705 (l)	Plant protection measures, fencing, caging.	X		

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
CCR 3705 (m)	Success quantified by cover, density and species-richness. Standards proposed in plan. Sample method set forth in plan and sample size provides 80 percent confidence level, as minimum.		29-36	2.6 App. B
CCR 3706 (a)	Mining and reclamation to protect downstream beneficial uses.		19-20; 37-38	1.5; 2.12 SWPPP
CCR 3706 (b)	Water quality, recharge, and groundwater storage shall not be diminished, except as allowed by plan.		19-20; 37-38	1.5; 2.12 SWPPP
CCR 3706 (c)	Erosion and sedimentation controlled during all phases as per RWQCB/SWRCB.		19-20; 37-38	1.5; 2.12 SWPPP
CCR 3706 (d)	Surface runoff and drainage controlled and methods designed for not less than 20 year/1 hour intensity storm event.		19-20; 37-38	1.5; 2.12 SWPPP
CCR 3706 (e)	Altered drainages shall not cause increased erosion or sedimentation.		19-20; 37-38	1.5; 2.12 SWPPP
CCR 3706 (f)	Stream diversions constructed in accordance with DFG 1603, EPA 404, Sec. 10 Rivers and Harbors.		19-20	1.5; App. D
CCR 3706 (g)	All temporary diversions eventually removed.		19-20	1.5
CCR 3707 (a)	Return prime ag to prime ag, unless exempted.	X		
CCR 3707 (b)	Segregate and replace topsoil by horizon.	X		
CCR 3707 (c)	Productivity rates equal pre-project or similar site for two consecutive years. Rates set forth in plan.	X		
CCR 3707 (d)	Fertilizers and amendments not contaminate water.	X		
CCR 3708	Other ag capable of sustaining crops of area.	X		
CCR 3709 (a)	Equipment stored in designated area and waste		36	2.7

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
	disposed of according to ordinance.			
CCR 3709 (b)	Structures and equipment dismantled and removed.		36	2.7
CCR 3710 (a)	Surface and groundwater protected.		19-20; 37-38	1.5; 2.12
CCR 3710 (a)	Surface and groundwater projected in accordance with Porter Cologne and Clean Water Acts (RWQCB/SWRCB).		19-20; 37-38	1.5; 2.12
CCR 3710 (b)	In-stream in accordance with CFG 1600, EPA 404, and Sec. 10 Rivers and Harbors.	X	No in-stream mining.	---
CCR 3710 (c)	In-stream channel elevations and bank erosion evaluated annually using extraction quantities, cross-sections, and aerial photos.	X	No in-stream mining.	---
CCR 3710 (d)	In-stream mining activities shall not cause fish to become entrapped in pools or in off-channel pits. California Fish and Game Code section 1600.	X	No in-stream mining.	---
CCR 3711(a)	All salvageable topsoil removed. Topsoil and vegetation removal not proceed mining by more than one year.		29-36	2.6 App. B
CCR 3711 (b)	Topsoil resources mapped prior to stripping, location of stockpiles on map. Topsoil and growth media in separate stockpiles.		29-36	2.6 App. B
CCR 3711 (c)	Soil salvage and phases set forth in plan, minimize disturbance, designed to achieve revegetation success.		29-36	2.6 App. B
CCR 3711 (d)	Topsoiling phased ASAP. Stockpiles not to be disturbed until needed. Stockpiles clearly identified and planted with vegetation or otherwise protected.		29-36	2.6 App. B
CCR 3711 (e)	Topsoil redistributed in stable		29-36	2.6

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
	site and consistent thickness.			App. B
CCR 3712	Waste and tailings, and waste disposal governed by SWRCB (Article 7, Chapter 15, Title 23, CCR).		17-18; 38	1.2; 2.13
CCR 3713 (a)	Drill holes, water wells, monitoring wells abandoned in accordance with laws.		36	2.7
CCR 3713 (b)	All portals, shafts, tunnels or openings, gated or protected from public entry, but preserve access for wildlife.		36	2.7

EXHIBIT B

Water Supply Assessment for
Bagdad Chase Mine

Geosyntec consultants

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Oakland, California 94607
PH 510.836.3034
www.geosyntec.com

March 1, 2023

Mr. Andrew Plummer
Managing Member
The Bagdad Chase Mining Co, LLC
8010 MacKenzie Ct., Las Vegas, NV 89129

Subject: Water Supply Assessment and Production Capacity Evaluation
Bagdad Chase Mine, San Bernardino County, California

Dear Mr. Plummer:

Geosyntec Consultants, Inc. (Geosyntec) is pleased to submit this Draft Water Supply Assessment (WSA) and Production Capacity Evaluation (PCE) for additional proposed water use at the Bagdad Chase Mining Co. (the Property) near the town of Ludlow in San Bernardino County, CA.

1. INTRODUCTION

Geosyntec has prepared this WSA and PCE in accordance with the requirements outlined within Senate Bill 610, an amendment to the California Water Code §10910. The WSA reviews the viability of regional water resources within the Bristol Valley and Broadwell Valley Groundwater Basins of San Bernardino County to meet the anticipated water demands of the Bagdad Chase Mine over 25-year projections for normal, single-dry-year, and multiple-dry-year conditions. The PCE reviews the local hydrogeologic setting at the Bagdad Chase Mine and provides an evaluation of the production potential for an extraction well located at the Property.

1.1 Project Location and Site Description

The Property is located in San Bernardino County, California, approximately 5 miles south of the town of Ludlow (Figures 1 and 2). As shown in Figure 2, the Property lies along the northwest margin of Bristol Valley on the eastern flank of the Bullion Mountains. Mining activities began around the year 1900, and the mine site has been operated by multiple groups since that time. The mine site is currently owned and operated by the Bagdad Chase Mining Co., and the Property spans approximately 515 acres (Figure 3). Other activity in Bristol Valley is largely limited to mineral extraction from groundwater brines within Bristol Dry Lake in the southeast portion of the valley, and some agriculture.

The regional geologic setting for the Property is within the southern portion of the Eastern California Shear Zone, an area of active faulting and deformation. The area is predominantly characterized by right-lateral strike-slip faulting with local-to-regional-scale variability in the

style of structural deformation. The Property is located between the right-lateral Ludlow Fault to the east, and an unnamed, north by northwest-trending shear zone to the west (Figure 3). Based on discussions with the staff geologist for the Bagdad Chase Mining Co., additional smaller scale faults traverse the Property, oriented to the northwest, north by northwest, and northeast.

The underlying bedrock in the region includes mid-to-late-Tertiary aged sedimentary and igneous rocks. The more resistant intrusive and volcanic rocks form the hills surrounding Bristol and Broadwell Valleys (Dibblee, 1967). Thick deposits of Tertiary and Quaternary alluvial and valley fill sediments overlie the bedrock in portions of the Bristol and Broadwell Valleys. Two aquifers are present in Bristol Valley, including an upper aquifer composed of Quaternary sands and gravels (max thickness of 800 feet) and a lower aquifer composed of Tertiary aged alluvial deposits up to 6,000 feet thick (CA DWR, 2020). These layers reach their maximum thicknesses near the location of Bristol Dry Lake in the southeastern portion of the valley, and thin towards the basin margins. Quaternary alluvial deposits also form the aquifer unit in Broadwell Valley, with a maximum thickness of at least 1600 feet near Broadwell Dry Lake.

The Property is located within the Mojave Desert, characterized by low annual rainfall and high rates of evaporation. Rainfall is highly seasonal with a mean annual rainfall of less than 6 inches in Bristol Valley and 3 to 5 inches in Broadwell Valley (CA DWR, 2020). In wet years, annual rainfall can exceed 10 inches (Rosen, 1989). Historical records indicate that dry conditions can be persistent, including 2-to-3-year periods without recorded rainfall. Runoff from the surrounding mountains is the primary source of recharge within the basins, including the Bullion Mountains to the west of the Property (GSI 1987). However, only a small portion of the accumulated rainwater is believed to percolate down into the aquifer, with most water being lost to evaporation. Annual recharge to the Bristol Valley Groundwater Basin is estimated to be 2100 acre-feet (af), but recharge to the Broadwell Valley Groundwater Basin is not known (CA DWR, 2020).

2. REGULATORY REQUIREMENTS

2.1 Senate Bill 610

Water Code §10910 et seq. requires preparation of a WSA for a project that is subject to the California Environmental Quality Act (CEQA) and is considered a project as defined in Water Code §10912. The Project is subject to CEQA and may be considered a project requiring preparation of a WSA according to the following "project" definition stated within §10912:

> *"A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area."*

2.1.1 Existing Public Water Supplies

The Project is not connected to an existing public water supply, defined in Water Code §10910 as "a system for the provision of piped water to the public for human consumption that has 3,000 or more service connections," nor is a connection planned in the future. However, an alternative water source included in the Reclamation Plan for the Bagdad Chase Mine (Lilburn Corporation, 2021) involved the purchase of groundwater from a private well owner in Ludlow. The Ludlow wells are considered part of a public water supply, and an evaluation of the potential impact on the water supply in Ludlow is required. Ludlow is located in the adjoining groundwater basin to the Property: the Broadwell Groundwater Basin. Alluvial deposits within the Broadwell and Bristol Valley Groundwater Basins form separate groundwater aquifers, so the impacts of a new extraction well on the Property and the purchase of water from Ludlow are discussed separately below in Section 4.

2.2 SGMA

Based on the "Very Low" priority assigned by the CA DWR to the Bristol Valley Groundwater Basin and Broadwell Valley Groundwater Basin, Groundwater Sustainability Plans (GSP) are not required by the California Sustainable Groundwater Management Act (SGMA; e.g., CA DWR, 2019). No GSPs exists for the Bristol Valley Groundwater Basin or the Broadwell Groundwater Basin.

3. PROPOSED PROJECT WATER DEMAND

Groundwater pumping is proposed as a water source to support mining operations such as processing activities and dust suppression. The well will not be used as a potable water source. Total onsite water use for mining operations is not expected to exceed 40 acre-feet per year (afy), which equates to approximately 25 gallons per minute (gpm). Approximately half of the production capacity is planned to be used in the processing facility for the mine and approximately half for dust suppression, although the water demand likely would vary seasonally.

4. WATER SUPPLY ASSESSMENT

The proposed additional groundwater pumping to support mining operations at the Bagdad Chase Mine will be sourced either from a new well (or wells) installed at the Property, or from existing wells located in Ludlow. Because the two proposed water sources are located in separate groundwater basins, the potential impact of the additional groundwater extraction is considered separately for each case.

4.1 Potential Impact of New Extraction Well in Bristol Valley

Records of existing production wells in Bristol Valley include wells for public and domestic water supply, agricultural, and industrial use (CA DWR 2023). Most of the wells are in the eastern portion of Bristol Valley, where brines are extracted from Bristol Dry Lake for mineral production. Three wells were identified in the western portion of Bristol Valley, including an existing well owned by Bagdad Chase Mine Co. and two domestic supply wells located approximately 16 miles southeast of the Property (Figure 2). Multiple wells are located within and to the north of the town of Ludlow (Figure 2), but alluvial deposits in the adjoining Broadwell Groundwater Basin form separate aquifers from the alluvial deposits in the Bristol Valley Groundwater Basin. Moreover, the Bagdad Chase Mine Property is several miles south of the wells in the Broadwell Groundwater Basin, so potential hydraulic connection between groundwater that may occur in fractured bedrock in the vicinity of the Ludlow wells and the Mine Property is expected to be negligible.

The existing volume of groundwater stored within the Bristol Valley Groundwater Basin is not known (CA DWR, 2020). Estimated annual recharge into the basin is 2,100 af (CA DWR, 2020) and estimates of annual groundwater production range from 3,417 to 5,020 af (CA DWR, 2019; CA DWR, 2020). Groundwater extraction activities in the Bristol Valley Groundwater Basin began in the early 1900s (Rosen, 1989), however, there are no documented declines in groundwater level within the basin (CA DWR, 2020). The long-term stability of groundwater levels has been recorded in Bristol Valley, with the groundwater level remaining near the surface at Bristol Dry Lake (CA DWR, 2020). The long-term stability of groundwater levels in the basin indicates that rates of recharge and discharge (including pumping) are approximately in equilibrium over long time scales.

The estimated water demand for mining operations is 40 afy (approximately 25 gpm). The total groundwater storage within the basin is unknown, however the estimated basin recharge and extraction rates provide a basis to estimate the potential impact of the proposed additional groundwater pumping from the basin. The additional pumping to meet the water demand of the mining operations is approximately 2% of the estimated average recharge to the groundwater basin. As noted above, this estimated value of 2% is likely conservatively high because it does not account for existing groundwater pumping that is occurring within the basin and indications that groundwater conditions are generally in equilibrium. As a proportion of the estimated current annual extraction volume for the basin (3,417 to 5,020 afy), the additional pumping to meet the expected water demand for the mining operations would be equivalent to an increase of 0.8 to 1.2%. The small proportions of the proposed new pumping for the mining relative to the estimated basin recharge and extraction rates, and the long-term stability of groundwater levels within the basin, indicate that the proposed volume of new groundwater production will have a negligible influence on the groundwater conditions in the basin.

4.2 Potential Impact of Additional Pumping in Broadwell Valley

Records of existing production wells in Broadwell Valley include four wells for public and domestic water supply and industrial use (CA DWR 2023). Three of the wells are located within Ludlow, and one is located approximately 2 miles to the northwest of Ludlow near the former County Borrow Pit (Figure 3). One of the wells is operating as the primary water supply for Ludlow, and the others are currently unused. Per discussions with the site geologist for the Bagdad Chase Mine, the operating well is currently producing up to 40 afy (25 gpm).

The existing volume of groundwater stored within the Broadwell Valley Groundwater Basin is not known and estimates of annual recharge and extraction are not available (CA DWR, 2020). Historical depth to water measurements include a depth of 102 feet below ground surface (bgs) near Broadwell Dry Lake in 1979, and depths of 785 to 1,084 feet bgs in Ludlow in 1883 (CA DWR, 2020). The latter measurements are likely in wells completed in fractured bedrock. Information on the long-term trends of groundwater levels within the basin is not available.

Evaluation of the potential impact of the proposed additional groundwater pumping in Ludlow is hampered by the lack of available information from the Broadwell Groundwater Basin. However, if similar alluvial sediment and evaporitic conditions are assumed for the Broadwell and Bristol Basins, an estimate can be made for the annual recharge rate. In both basins, infiltration from rainfall is believed to be the primary source of recharge (CA DWR, 2020). In Bristol Valley, 6 inches of precipitation across the 498,000 acres of basin area equates to 249,000 af of annual rainfall volume. Assuming that 100% of the 2,100 afy of recharge comes from infiltration of precipitation, the proportion of rainfall over the basin that infiltrates to groundwater is approximately 1%. Applying this proportion to the rainfall volume in Broadwell Valley (3 inches over 92,100 acres) yields an estimated annual recharge volume of 230 af. The proposed 40 afy of additional groundwater pumping would be 17% of the estimated recharge in Broadwell Valley Groundwater Basin. The single operating well in Ludlow is currently producing 40 afy, indicating that the total extraction volume with the proposed new pumping would be around 34% of the annual basin recharge volume.

A conservative estimate of groundwater in storage within Broadwell Valley Groundwater Basin provides another means of evaluating the potential impact of additional groundwater extraction from the wells in Ludlow. If the basin contained only 1% of the total storage capacity, which is equivalent to approximately 12,200 af (CA DWR 2020), the additional extraction would be equivalent to 0.3% of the groundwater in storage. The estimated recharge rate suggests that the total use for the basin (80 afy) would not produce a deficit in the annual volume in storage. Even in the case of multiple dry years without any precipitation or recharge, the groundwater volume in storage is predicted to recover within a period of a few years. Table 1 shows the calculated volume of groundwater in storage over the next 25 years using the assumptions described above.

Table 1: Projected Volumes of Groundwater in Storage Within the Broadwell Valley Groundwater Basin (acre-feet per year)

Scenario	2023	2028	2033	2038	2043	2048
Average Conditions	12,200	12,950	13,700	14,450	15,200	15,950
1 dry year	12,200	12,720	13,470	14,220	14,970	15,720
3 dry years	12,200	12,260	13,010	13,760	14,510	15,260

Based on the above evaluation of the impact of additional groundwater extraction in Ludlow, the proposed volumes of water to be used for mining operations at the Property will not have a significant effect on groundwater in storage within the Broadwell Valley Groundwater Basin.

We note however, that recharge to groundwater in fractured bedrock is commonly more localized than for an alluvial basin, where generally uniform areal recharge is typical. Also, the area that contributes recharge to fractured bedrock may not be related to the area and geometry of an overlying alluvial basin. Accordingly, recharge to, and sustainable production capacity of fractured bedrock aquifers is more difficult to predict than for alluvial aquifers.

5. PRODUCTION CAPACITY EVALUATION

The Property is located along the margin of the Bristol Valley Groundwater Basin, near the bedrock exposures in the Bullion Mountains. The alluvial groundwater aquifers of the basin are thickest to the southeast near the location of Bristol Dry Lake. Near the margins of the basin, the thickness of alluvium and other sediment is expected to generally decrease until it terminates along outcropping bedrock. Per discussions with a staff geologist for Bagdad Chase Mining Co, the maximum observed thickness of the alluvial cover at the Property is approximately 40 feet, and groundwater was not observed in these alluvial deposits.

Considering the thin observed alluvial thicknesses at the Property and the lack of observed significant groundwater in those sediments, a single well that is screened in the alluvial aquifer units is not expected to be capable of producing the target production capacity of 40 afy (equivalent to approximately 25-gpm). If groundwater production is possible to meet the water demand, multiple wells in local drainages would likely be necessary. Additionally, the

drawdown at the existing Bagdad Chase Mining Co. well associated with a 35-gpm pumping rate is approximately 140 feet, which equates to a specific capacity of 0.25 gpm-per-foot. Assuming the same specific capacity in the vicinity of the mine and an optimistic saturated thickness of 20 feet (without pumping), the hypothetical production rate from a well operating with 10 feet of drawdown would be 2.5-gpm. Further information on the thickness of local alluvial deposits in the vicinity of the mine site may help identify a favorable location for wells in the alluvium, but the presence of groundwater in the vicinity of the mine may be inadequate to sustain a 25-gpm pumping rate.

The geologic setting for the Property in a zone of faulting and structural complexity increases the probability of locating a groundwater source within local structurally controlled alluvial deposits and within fractured bedrock beneath the site.

Fault displacement has the potential to form irregular bedrock topography, which can produce over-deepened areas with relatively thick alluvial fill. Further investigation of the thickness of water bearing alluvial deposits may be helpful.

The presence of multiple generations of cross-cutting faults, some of which are active, suggests that fractured bedrock aquifers may be present in the vicinity of the mine. Fault zones can enhance or hinder groundwater flow depending on the geologic setting, and the properties are difficult to predict. Additionally, the sustainability of production from wells in fractured rock aquifers commonly decreases in time due to limited connection and extent of water bearing fractures (e.g., Robinson et al., 2004). A historical spring has been identified approximately 1 mile to the southwest of the Property, along the unnamed north-by-northwest trending fault to the west of the Bristol Valley Groundwater Basin. The presence of a spring along the fault suggests that water may be present within open fractures in the fault zone, but the persistence of this feature and the continuity of any associated fracture networks are unknown. Further exploration of the potential for groundwater production in bedrock could be warranted. Geophysical data, such as electrical resistivity, may help identify the presence of groundwater both in local alluvial deposits and in fractured bedrock.

6. CONCLUSIONS

The Project is subject to the conditions of California Water Code §10910 because it is subject to CEQA and meets the code's definition of a project. The proposed groundwater production at the Property is not expected to impact current groundwater use within the basin due to the relatively small additional pumping as compared to estimates of both extraction and recharge, the long-term stability of groundwater levels in the basin, and the presence of groundwater just below the surface of Bristol Dry Lake. These conditions have persisted since mining operations began in

the early 1900s, including through periods of up to three consecutive years without any precipitation.

Similarly, additional groundwater pumping from wells in Ludlow is not expected to impact current use or storage within Broadwell Valley Groundwater Basin. Conservative estimates of basin recharge and storage volumes indicate that the basin can support the proposed groundwater extraction, even under multiple dry year conditions, with the noted caveat that the calculations of storage and recharge may be inaccurate for fractured bedrock aquifers.

Evaluation of the hydrogeological conditions at the Property indicate that if sufficient groundwater is present in the alluvial deposits to meet the project demands, then multiple wells may be required to meet the desired production rate. Further investigation may identify more favorable conditions for groundwater production in fractured bedrock beneath the Property.

Sincerely,

Keith Hodson, Ph.D., G.I.T. (WA)
Senior Staff Professional

Gordon Thrupp, Ph.D., P.G., C.H.G. (CA)
Senior Consultant

Enclosures: References Cited
Figure 1: Site Location
Figure 2: Regional Setting
Figure 3: Local Setting

REFERENCES CITED

Bentley Resources, Ltd. (1987). Well Construction Record for Well BC-W1.

California Department of Water Resources (CA DWR) (2019). Sustainable Growth Management Act, 2019 Basin Prioritization. May.

CA DWR (2020). California's Groundwater Update 2020 (Bulletin 118).

CA DWR (2023). Well Completion Report Map Application. https://dwr.maps.arcgis.com/apps/webappviewer/index.html?id=181078580a214c0986e2da22f8686b37.

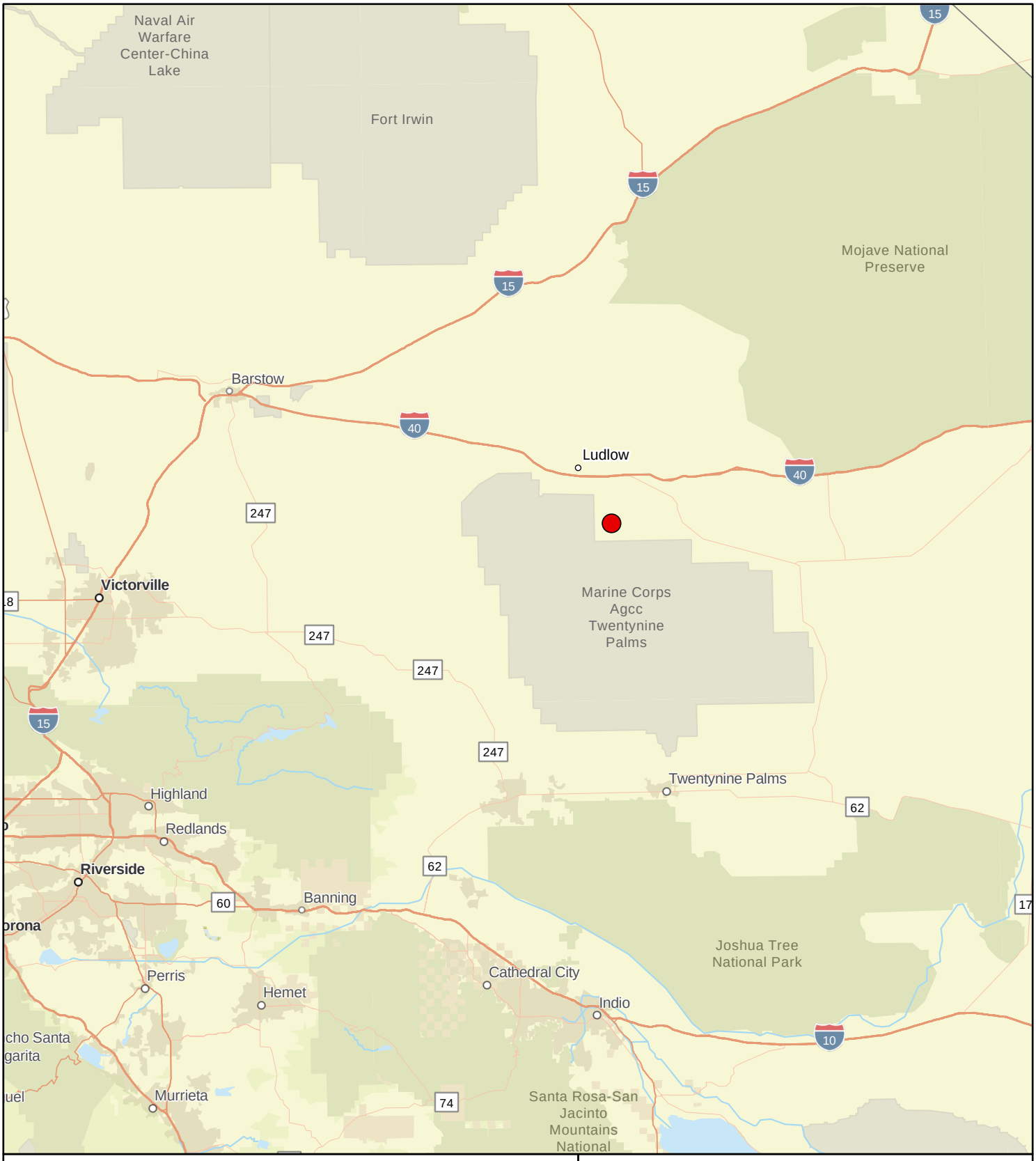
Dibblee, T. M. (1967). Geologic map of the Ludlow quadrangle, San Bernadino County, California. U.S. Geological Survey Miscellaneous Geologic Investigations Map.

Geothermal Surveys, Inc. (GSI) (1987). Geohydrological Investigations Near the Bagdad-Chase Mine. San Bernadino County, California. February 24.

Lilburn Corporation (2021). Reclamation Plan for the Bagdad Chase Mine, San Bernadino County. August.

Robinson, Noble, & Saltbrush, Inc. (2004). Fractured-rock Wells in the Pacific Northwest foothills: Not your average water source; informational flyer for the Washington State Ground Water Association. http://www.wsgwa.org/docs/FracturedRock.pdf

Rosen, M. R. (1989). Sedimentologic, Geochemical, and Hydrologic Evolution of an Intracontinental, Closed-basin Playa (Bristol Dry Lake, CA): A Model for Playa Development and its Implications for Paleoclimate. University of Texas at Austin Dissertation.



Legend

- Site Location

World Street Map: California State Parks, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, Bureau of Land Management, EPA, NPS

0 16 Miles

Site Location

San Bernardino County, California

Geosyntec consultants

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Figure 1

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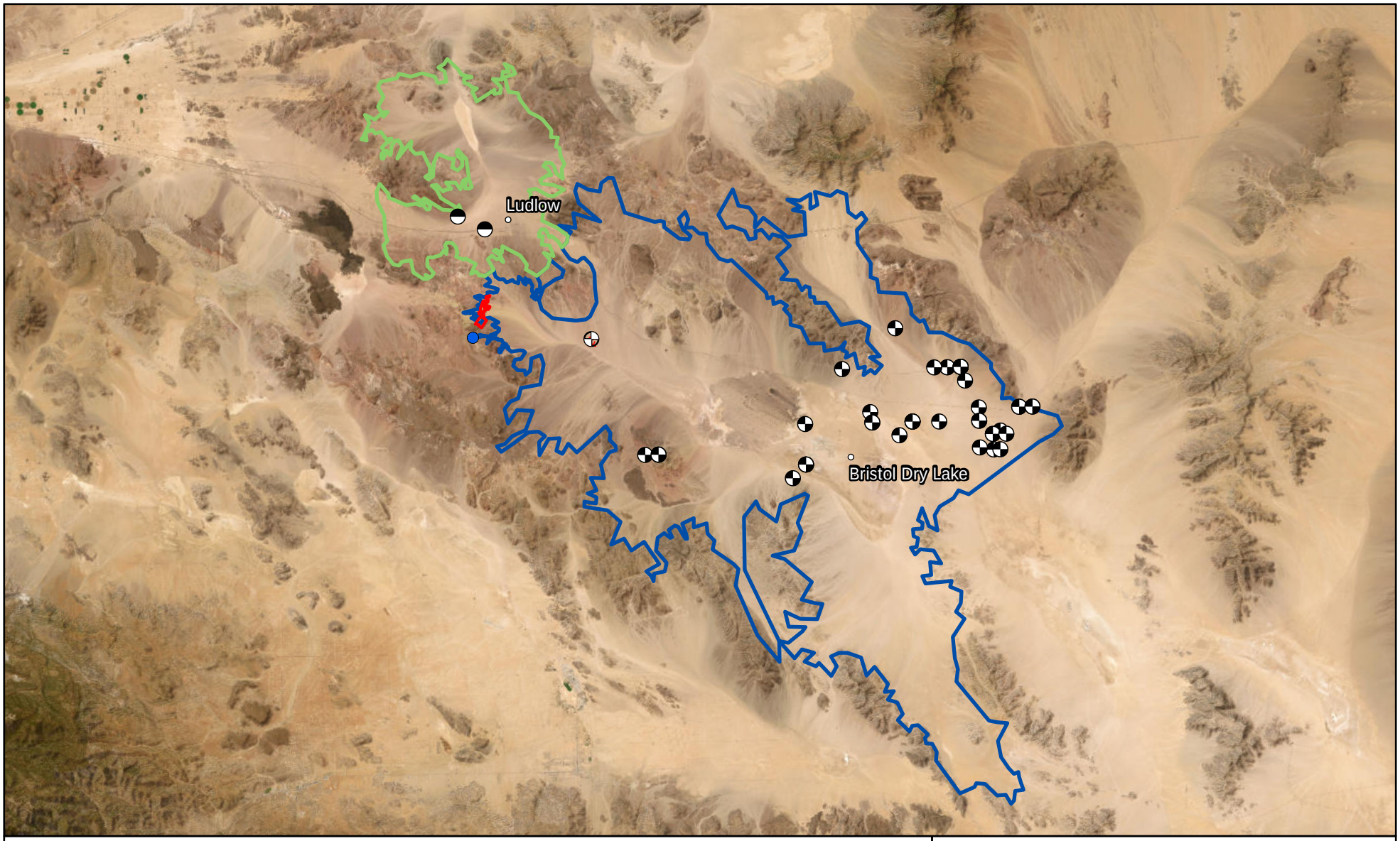

Legend

- Property Boundary
- Bristol Valley Groundwater Basin
- Broadwell Valley Groundwater Basin
- Existing well owned by the Bagdad Chase Mining Co.
- Historical Spring
- Broadwell Valley Wells
- Bristol Valley Wells

World Imagery: Earthstar Geographics

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3

Regional Setting

San Bernardino County, California

Geosyntec consultants

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Figure 2

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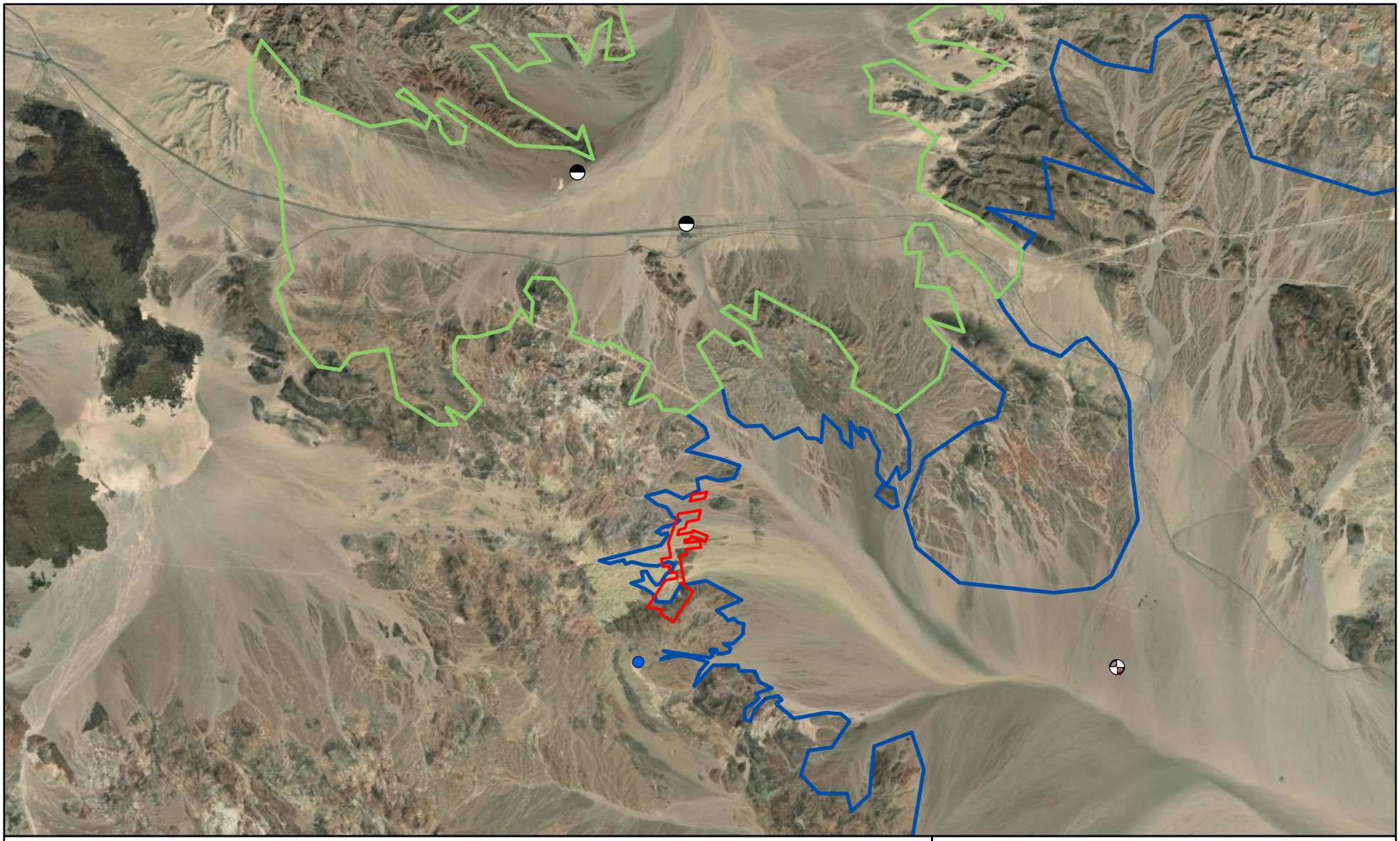

Legend

- Property Boundary
- Bristol Valley Groundwater Basin
- Broadwell Valley Groundwater Basin
- Existing well owned by the Bagdad Chase Mining Co.
- Historical Spring
- Broadwell Valley Wells

3

World Imagery: Earthstar Geographics
World Imagery: San Bernardino County, Earthstar Geographics

0 2 Miles

Local Setting

San Bernardino County, California

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Figure 3

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EXHIBIT C

Initial Study/Mitigated Negative Declaration

https://www.sbcounty.gov/uploads/LUS/Environmental/Bagdad_Chase_Mine/Bagdad%20Chase%20Mine%20Initial%20Study%20Final%2008.10.2022.pdf-Dave's%20Signature.pdf

EXHIBIT D

Conditions of Approval

CONDITIONS OF APPROVAL

Bagdad Chase Mine
MINING/RECLAMATION PLAN 23M-01

Operation and Reclamation Procedures

LAND USE SERVICES DEPARTMENT– Planning Division (909) 387-8311

1. The Conditional approval of Mining/Reclamation Plan 23M-01 for the Bagdad Chase Mine to allow mining development activities on approximately 244 acres within 511.75 acres of private lands for a period of 30 years, followed by 5 years to complete reclamation and revegetation monitoring.

2. Project Location. Private lands in portions of Sections 4, 5, and 8, Township 6 North, Range 8 East and Section 32 in Township 7 North, Range 8 east, San Bernardino Base and Meridian (SBBM). The Bagdad Chase Mine is located approximately 6 air-miles south of Ludlow within the Assessor Parcel Numbers (APNs): 0551-181-03 through 13; 0551-191-15, 16, 17, 24, and 25.

3. Effective Dates. The Bagdad Chase Reclamation Plan approval (project account #MRP-2021-0002) shall be effective from the time of approval until December 31, 2051. At the conclusion of all mining and reclamation activities, the site will be reclaimed to vacant open space.

4. Reclamation Plan Recordation. Pursuant to Public Resources Code Section 2772.7, Planning will prepare a "Notice of Reclamation Plan Approval" on a form to be approved by the County Recorder's Office. The operator shall be responsible for review costs and recording fees.

5. Revisions/Amendments. Any alteration, revision or expansion of facilities or increase in the developed area of the site from that shown on the final approved plot plans will require submission of an additional application for review and approval. If Mining and Reclamation Plan procedures change from those outlined in the Reclamation Plan for Bagdad Chase Mine dated August 2021, the applicant/operator shall file an amendment and secure approval before such changes can be made effective.

6. Continuous Effect/Revocation. All Conditions of the Bagdad Chase Reclamation Plan are continuing conditions. Failure of the applicant/operator to comply with any or all of said conditions at any time could result in the notice of a public hearing before the Planning Commission to consider corrective measures and/or revocation of the authorization to continue mining development. If revocation is confirmed, the Planning Commission may provide for a reasonable period of time to amortize any lawful existing uses and require the commencement of reclamation in accordance with approved Mining/Reclamation Plan 23M-01.

7. Written Notification. The Land Use Services Department shall be notified in writing, within 30 days, regarding any:
   a. Change in operating procedures, or inactive periods of operation for one (1) year or more.
   b. Changes of Company ownership, address, or telephone number during the life of the Reclamation Plan.
   c. Changes to provisions in lease agreements or real property having any effect on the approved Reclamation Plan.

8. SMARA and State Regulations. The provisions of the California Surface Mining and Reclamation Act of 1975 ("SMARA", Public Resources Code Section 2710 et seq.), Public Resources Code Section 2207, and the regulations implementing SMARA ("State Regulations", California Code of Regulations Section 3500 et seq.) are made a part of the Reclamation Plan. In the event that the State amends

SMARA to the extent it adds to or conflicts with the Conditions of Approval, State law shall prevail.

9. Mining and Reclamation Plan. The approved Mining/Reclamation Plan 23M-01 and these corresponding Conditions of Approval shall be kept at the site at all times during active operations and be presented to the inspector upon request.

10. The mining operation shall be conducted in a uniform manner with exterior slopes and floors trimmed as the mining operation proceeds. Excavation shall be conducted so as to leave them in a reasonably neat and trim manner. Final pits shall be excavated, trimmed and backfilled as per the approved Plot Plan.

11. Slope Monitoring. A slope monitoring plan shall be developed and implemented to assure that unnecessary hazards are not created with the active and reclaimed slopes. Using the information from the monitoring, the assumptions and results of the stability analysis shall be evaluated for continued approved design applicability. The monitoring plan shall be conducted by a qualified licensed California geo-professional. Prior to decommissioning, a slope evaluation report shall be prepared and submitted to Land Use Services for review. The report shall address significant stability problems experienced and control or remediation measures proposed or implemented. Final fill slopes shall be no steeper than 2:1 (horizontal to vertical).

12. Pit walls shall be constructed in accordance with the standards of the Mine Safety and Health Administration (MSHA).

13. Blasting. Blasting shall be conducted in compliance with the Mine Safety and Health Administration (MSHA) and California Safety and Health Administration (Cal OSHA) requirements.

14. Interim Management Plan. The applicant shall implement measures to stabilize and secure the site during periods of inactivity as per the approved Reclamation Plan. An Interim Management Plan (IMP) as required by SMARA Section 2770(h)(1) shall be submitted to Planning for review and approval within 90 days of the mining operation becoming idle.

15. Additional Permits/Approvals. The applicant/operator shall ascertain and comply with requirements of all County, State, and Federal agencies as may be applicable to the Project. These include, but are not limited to the following: San Bernardino County Departments of Land Use Services, Public Health, Environmental Health Services, Public Works, Fire Department, Mojave Desert Air Quality Management District (MDAQMD), Lahontan Regional Water Quality Control Board (LRWQCB) Region 6, State Fire Marshal, Environmental Health Services, California Department of Fish and Wildlife (CDFW) Region 6, U.S Fish and Wildlife, Army Corp of Engineers, State Mining and Geology Board, California Department of Conservation, California Occupational Safety and Health Administration (OSHA), and the Mine Safety and Health Administration (MSHA).

16. Indemnification. In compliance with SBCC §81.01.070, the developer shall agree, to defend, indemnify, and hold harmless the County or its “indemnitees” (herein collectively the County’s elected officials, appointed officials (including Planning Commissioners), Zoning Administrator, agents, officers, employees, volunteers, advisory agencies or committees, appeal boards or legislative body) from any claim, action, or proceeding against the County or its indemnitees to attack, set aside, void, or annul an approval of the County by an indemnitee concerning a map or permit or any other action relating to or arising out of County approval, including the acts, errors or omissions of any person and for any costs

or expenses incurred by the indemnitees on account of any claim, except where such indemnification is prohibited by law. In the alternative, the developer may agree to relinquish such approval.

Any condition of approval imposed in compliance with the County Development Code or County General Plan shall include a requirement that the County acts reasonably to promptly notify the developer of any claim, action, or proceeding and that the County cooperates fully in the defense. The developer shall reimburse the County and its indemnitees for all expenses resulting from such actions, including any court costs and attorney fees, which the County or its indemnitees may be required by a court to pay as a result of such action.

The County may, at its sole discretion, participate at its own expense in the defense of any such action, but such participation shall not relieve the developer of their obligations under this condition to reimburse the County or its indemnitees for all such expenses.

This indemnification provision shall apply regardless of the existence or degree of fault of indemnitees. The developer's indemnification obligation applies to the indemnitees' "passive" negligence but does not apply to the indemnitees' "sole" or "active" negligence or "willful misconduct" within the meaning of Civil Code Section 2782.

17. Financial Assurances. The applicant/operator shall maintain an acceptable form of Financial Assurance to ensure reclamation in accordance with Mining/Reclamation Plan 23M-01. The Financial Assurance mechanism shall identify the County of San Bernardino and the California Department of Conservation (DOC) as the beneficiaries.

    The Financial Assurance shall be calculated based on a cost estimate submitted by the applicant/operator and approved by the County and DOC, Division of Mine Reclamation (DMR) for the approved reclamation procedures.

    Within 30 days following the mine site inspection, a Financial Assurance Cost Estimate (FACE) shall be provided to the Land Use Services Department. The assurance amount shall be reviewed and, if necessary, adjusted to account for new lands disturbed by surface mining operations, inflation and reclamation of lands accomplished in accordance with approved Reclamation Plan.

    The Financial Assurance is not established to replace the applicant's/operator's responsibility for reclamation, but to assure adequate funding to complete reclamation per the Reclamation Plan and Conditions of Approval. Should the applicant/operator fail to perform or operate within all of the requirements of the approved Reclamation Plan, the County or DOC will follow the procedures outlined in Sections 2773.1 and 2774.1 of SMARA regarding the encashment of the assurance and applicable administrative penalties to bring the applicant/operator into compliance. The requirements for the assurance will terminate when reclamation of the site has been completed in compliance with the approved Mining/Reclamation Plan and accepted by the County and DMR pursuant to California Code of Regulations (CCR), Section 3805.5.

18. Annual Reporting and Inspection. The applicant/operator shall provide a Mining Operation Annual Report to DMR and to the Land Use Services Department on a date established by the DOC, using forms furnished by the State Mining and Geology Board. The County is required to conduct an inspection within intervals no greater than 12 months to determine if the operation is in compliance with the approved Conditions of Approval, Reclamation Plan, and SMARA statutes and regulations. The County is required to notify DMR upon completion of the inspection that the inspection has been conducted and provide a statement regarding the status of compliance of the operation within 90 days after completion of the inspection. The operator of the mining operation is responsible for filing

an application with the County to request an inspection and shall be responsible for paying the County's costs in conducting the mine site inspection.

19. Applicant/Operator. Requirements extend to the property owner and any person, lessee, tenant or sub-tenant, operator, individual, firm, association, corporation, organization, limited liability company or partnership, or any city, county, district, or the state or any department or agency thereof for any disturbance or improvements to the mined lands. The applicant/operator may include an agent or other interested party, and any heir or successor in interest in the project land use by sale or by lease of all or of a portion of the mine site including land use within any or all of the mine structures or areas on the mine site.

20. Disturbance Limits. Prior to any new ground disturbance, a Licensed Land Surveyor shall be employed to determine and permanently monument the mine boundary and limits of each road right-of-way. For each corner, GPS coordinates shall be provided in a format acceptable to Land Use Services. A final report shall be provided to Land Use Services.

Definitions

21. Minerals. Include any naturally occurring chemical element or compound, or groups of elements and compounds, formed from organic and inorganic processes. Clay, sand, gravel, rock, decomposed granite, salts, alumina, silica, alkali, topsoil or growth medium, organic humus and gems represent the aggregate of different minerals.

22. Aggregate Removal. The applicant shall not sell or otherwise move off the mine site any sand, gravel, or other produced minerals to a public agency unless the operator certifies, under penalty of perjury, that the mining operation is identified in the AB 3098 List published pursuant to PRC Section 2717(b).

23. Construction and Demolition (C&D). Materials left on site or produced in the process of site clearing activities, construction, renovation, or demolition of structures of all types to include roads and bridges shall be deemed as waste material. Waste materials include, but is not limited to concrete, asphalt, wood, metals, gypsum wallboard and brick. The Financial Assurance Cost Estimate shall include costs to remove C&D materials to an approved facility that is permitted to receive such materials.

24. Exploration or Prospecting. Includes the activities in search for minerals by geological, geophysical, geochemical or other techniques, including, but not limited to, sampling, assaying, drilling, or any surface or underground works needed to determine the type, extent, or quantity of minerals present.

25. Project Design Features: Project Design Features (PDFs) are aspects of the proposed project that have been designed into the mining operations.

26. Mitigation Measures: Mitigation Measures (MMs) are environmental protection measures developed during the CEQA process (in addition to the proposed PDFs) that have been determined necessary to further protect the environment.

27. Ownership. The person(s) involved in the ownership of the property include all persons having interest in the ownership of the surface and subsurface property, including mineral rights. If the applicant/operator is not the recorded owner(s) of the property, must submit a signed statement by the property and mineral rights owner(s) authorizing the applicant to act on their behalf.

28. Operator. The Operator includes the applicant and any person who is engaged in surface mining operations, and others contracted to conduct operations on his or her behalf, except a person who is engaged in surface mining operations as an employee with wages as his or her sole involvement and compensation.

29. Operations. Surface mining operations include all, or any part of, the process involved in the mining of minerals on mined lands, borrow pitting, segregation and stockpiling of mined materials (and recovery of same).

30. Mined Lands. Include the surface, subsurface, and groundwater of an area in which surface mining operations will be, are being, or have been conducted, including private ways and roads appurtenant to any such area, land excavations, workings, mining waste, and areas in which structures, facilities, equipment, machines, tools, or other materials or property which result from, or are used in, surface mining operations are located.

31. Parcel Map. The applicant/operator shall, prior to final inspection for reclamation and release of the financial assurance, record a parcel map for any and all affected parcels where unconsolidated fill is part of the final reclamation. The parcel map shall indicate those areas backfilled with uncompacted material and designate said areas as unbuildable. At such time a California Building Code (CBC) compaction report has been approved by Building and Safety before that particular area can have the building restriction removed.

32. Produced Minerals. As defined in CCR Section 3501 includes all minerals sold, given or otherwise moved off the site of the operation, as defined in the approved reclamation plan. Recycled products (e.g. broken concrete, bricks, asphaltic concrete, etc.) or stockpiles of mineral products that remain on the site are not produced minerals for purposes of CCR Section 3695(b).

33. Transplanting. Transplanted or propagated plants will be maintained for a minimum of three years, or until a qualified biologist(s) determine that the plants have been successfully established (e.g., plants are vigorous, flower, and produce seed). Successful re-establishment of the plants will be based on the replanted areas achieving density and diversity standards based on control plots.

34. Special-status Plant Protection. Special-status plants (as listed in the SBCC Section 88.01.060 (et al.), Desert Native Plant Protection, and those species identified/listed in the Revegetation Plan and growing within the disturbed areas will be salvaged and/or propagules will be relocated to an appropriate location within the mine site that will not be disturbed by future mine activities. Prospective transplanting sites will be inspected and approved by a qualified botanist prior to removal of vegetation for the project. Transplanting efforts will be consistent with the Revegetation Plan.

35. Joshua Trees. On September 22, 2020, the California Fish and Game Commission determined that the Western Joshua tree *(Yucca brevifolia)* is a potentially threatened or endangered species and should be protected under the California Endangered Species Act (CESA). This commenced a status review of the species and the Commission will make a final decision whether or not to require permanent protection status under CESA after the review; therefore, during the status review period, the Western Joshua tree is protected under CESA. During the status review period, the County does not have authority to authorize removal of Western Joshua trees pursuant to Development Code

sections 88.01.040 through 88.01.060 and removal shall require authorization from the California Department of Fish and Wildlife.

33. Project Account. As determined necessary on a case-by-case basis, the applicant/operator shall deposit funds with the County necessary to compensate staff time and expenses for review of compliance monitoring reports and site inspections. The project account number for this Mining/Reclamation Plan 23M-01 approval is MRP-2021-01. This is an actual cost project with a deposit account to which hourly charges are assessed by various county agency staff, including but not limited to: Land Use Services, Public Works, and County Counsel.

Upon notice, the applicant shall deposit additional funds to maintain or return the account to a positive balance. The applicant/operator is responsible for all expenses charged to this account.

LAND USE SERVICES DEPARTMENT – Building and Safety (909) 387-4421

34. Geology Report Required Before Grading. If construction of inhabited structures is proposed, a geology report shall be submitted to the Building and Safety Division for review and approval by the County Geologist and fees paid for the review prior to issuance of grading permits or land disturbance.

35. Geotechnical (Soil) Report Required Before Grading. If construction of inhabited structures is proposed, a geotechnical (soil) report shall be submitted to the Building and Safety Division for review and approval prior to issuance of grading permits or land disturbance.

36. Temporary Use Permit: A Temporary Structures (TS) permit for non-residential structures for use as office, retail, meeting, assembly, wholesale, manufacturing, and/ or storage space will be required. A Temporary Use Permit (PTUP) for the proposed structure by the Planning Division must be approved prior to the TS Permit approval. A TS permit is renewed annually and is only valid for a maximum of five (5) years.

COUNTY FIRE DEPARTMENT – Community Safety Division (760) 254-5474

37. Additional Requirements: In addition to the Fire requirements stated herein, other onsite and offsite improvements may be required which cannot be determined from tentative plans at this time and would have to be reviewed after more complete improvement plans and profiles have been submitted to this office.

38. Access – 150+ feet: Roadways exceeding one hundred fifty (150) feet in length shall be approved by the Fire Department. These shall be extended to within one hundred fifty (150) feet of and shall give reasonable access to all portions of the exterior walls of the first story of any building.

39. Access: The development shall have a minimum of one points of vehicular access. These are for fire/emergency equipment access and for evacuation routes. a. Single Story Road Access Width. All buildings shall have access provided by approved roads, alleys and private drives with a minimum twenty-six (26) foot unobstructed width and vertically to fourteen (14) feet six (6) inches in height. Other recognized standards may be more restrictive by requiring wider access provisions. b. Multi-Story Road Access Width. Buildings three (3) stories in height or more shall have a minimum access of thirty (30) feet unobstructed width and vertically to fourteen (14) feet six (6) inches in height.

40. Jurisdiction: The above referenced project is under the jurisdiction of the San Bernardino County Fire Department herein "Fire Department". Prior to any construction occurring on any parcel, the applicant shall contact the Fire Department for verification of current fire protection requirements. All new construction shall comply with the current California Fire Code requirements and all applicable status, codes, ordinances and standards of the Fire Department.

MINING OPERATIONS

LAND USE SERVICES DEPARTMENT – Planning Division (909) 387-8311

41. Operations. Extraction and processing operations shall proceed in accordance with the Reclamation Plan for Bagdad Chase Mine. Mineral extraction and stockpiling will adhere to the mining operations outlined in the application.

42. Best Management Practices (BMP's). The operator shall implement BMP's procedures. BMP provisions shall include, but not limited to, the following:
- Good Housing Keeping – Dust minimization, waste spills, discharges.
- Preventive Maintenance – Minimize spills, and on-site leaks, prompt maintenance.
- Spill and Leak Preventive Response – In place spill procedures and controls.
- Material Handling and Waste Mgmt. – Waste covering, storm water diversion practices, waste clean ups.
- Implement Erosion and Sediment Controls – Sediment and Erosion Stabilization.
- Employee Training Program- BMP Training.
- Exposure Minimization – Storm resistant shelters to prevent contact of storm water with mining materials, as feasible.
- Storm Water Containment & Discharge Reduction – BMP's that divert, reuse, contain or reduced volume of storm water runoff.

43. Storm Water Pollution Prevention Program (SWPPP). The operator shall prepare a SWPPP outlining how storm water shall be conveyed or directed on and off-site during operations to avoid impacts to groundwater and surface water quality. Within the SWPPP, the operator shall list Best Management Practices (BMPs) to be implemented on site to avoid water quality impacts. The SWPPP shall be submitted to the Lahontan Regional Water Quality Control Board and a copy submitted to Planning or provide evidence from LRWQCB that the SWPPP is not needed.

44. Employee Training. Develop an Employee Training Awareness Plan that addresses training requirements, as necessary to comply with relevant regulations and approval conditions and mitigations.

45. Additional Environmental Control Measures. In addition to the BMPs, MMs, and PDFs stated herein, the Operator shall implement the environmental control measures identified below in the specific resource sections of these COAs.

46. Trackout and Spills. The mine operator shall take actions sufficient to prevent project-related trackout onto paved surfaces and while operating on publicly maintained paved surfaces. The mine operator shall immediately clean-up project-related trackout or spills on publicly maintained paved surfaces.

47. Chemical Spills/Leakage. All chemical spills or leakage of petroleum products during mining or reclamation activities shall be remediated in compliance with applicable state and local regulations regarding cleanup and disposal of the contaminant released. Contaminated wastes shall be collected and disposed of at an appropriately licensed disposal or treatment facility.

In the event of any soil contamination on-site, the applicant/operator shall remove any soils that become chemically contaminated to a County-approved disposal site so as to preclude any chemical leaching into the local ground water supply over time.

Air Quality

48. Air Quality – General. Comply with all relevant MDAQMD regulations and permit conditions to minimize air emissions.

49. Dust Control Plan. Prepare and implement a Dust Control Measures pursuant to SBCC Chapter 88.02 and Section 88.02.040 and the Mojave Desert Air Quality Management District (MDAQMD) Rule 403(C).

50. Equipment Emission Reduction and Idling. Equipment Emission Reduction and Idling. Maintain and operate construction equipment to minimize exhaust emissions. During mining, trucks and vehicles in loading and unloading shall comply with the California Air Resources Board's written idling policy, dated December 2015, when not in use, to reduce vehicle emissions.

51. Exhaust Control Measures. Comply with all existing and future EPA (Clean Air Non-road Diesel Rule-May 2004), CARB and MDAQMD regulations related to diesel-fueled trucks and equipment, which may include among others: (1) meeting more stringent emission standards; (2) retrofitting existing engines with particulate traps; (3) use of low sulfur fuel; and (4) use of alternative fuels or equipment.

Operation of all off-road and on-road diesel vehicles/equipment shall comply with the County Diesel Exhaust Control Measures (SBCC, Section 83.01.040 (c)) including but not limited to:

a) Equipment/vehicles shall not be left idling for period in excess of five minutes;
b) Engines shall be maintained in good working order to reduce emissions;
c) Onsite electrical power connections shall be made available where feasible;
d) Ultra-low-sulfur diesel fuel shall be utilized;
e) Electric and gasoline powered equipment shall substitute for diesel powered equipment where feasible; and
f) Signs shall be posted requiring all vehicle drivers and equipment operators to turn off engines when not in use.

Hazardous and Hazardous Materials; Geology Slope Stability

52. Hazardous Materials Business Plan / Emergency/Contingency Plan. The operator shall establish a Business Emergency/Contingency Plan to establish protocol in the event of release or threatened release of hazardous materials and wastes. Contact Office of the Fire Marshall, Hazardous Materials Division at (909) 386-8401.

53. Hazardous Materials Handling. The operator shall be required to apply for one or more of the following permits: Hazardous Materials Permit, a Hazardous Waste Permit, and/or an Aboveground Storage

Tank Permit, as appropriate.

54. Compliance. Comply with the Hazardous Materials Business Plan, SWPPP, SPCC Plan and BMPs as required and applicable by these plans and hazardous materials and waste regulatory requirements.

55. Management of Hazardous Materials. Ensure that the use, transport, management, storage and disposal of fuels (i.e. diesel and gasoline) and other hazardous materials used for mining operations (i.e. motor oil, transmission fluids, hydraulic fluids, lubricating greases, brake fluids and/or antifreeze) are in accordance with federal, state and local hazardous materials and waste management regulations and BMPs.

56. Above Ground Storage Tank. Inspect and maintain any above ground fuel storage tank to ensure that the secondary containment (i.e. double wall tank) and spill prevention controls and countermeasures are present and/or operating as required.

57. Hazardous Materials Business Plan. Maintain an updated Hazardous Materials Business Plan and hazardous materials inventory per CUPA requirements as applicable.

58. Emergency Response Equipment. Maintain all emergency and spill response equipment in proper operating condition and have available at areas where hazardous materials and waste are used, transported and/or stored.

59. Hazardous Material/Waste Training. Ensure all personnel are appropriately trained in hazardous materials and waste management, including spill prevention and response procedures.

60. Slope Design. Implement overburden slope designs and procedures recommendations identified in approved slope stability investigations and per SMARA requirements.

61. Slope Monitoring. Slope inspections and monitoring shall be implemented to assure that unnecessary hazards are not created with the active or final reclaimed slopes. A qualified independent California Certified Professional Civil Engineer and/or Engineering Geologist shall complete a stability assessment of existing and new quarry development areas when deemed necessary by the County inspector. The analysis shall identify and discuss significant structural features or indications of potential instability encountered.

Biological Resources

59. **Mitigation Measure BIO-1:**

- ***Preconstruction surveys shall be conducted no more than 30 days prior to new ground disturbance within the Lillian Belle area and for roads in the wash areas to the east;***
- ***Worker/employee/driver desert tortoise and sensitive wildlife education and awareness program (WEAP) shall be completed prior to working on-site (see WEAP provided after MM BIO-2);***
- ***Disturbance shall be confined to the smallest practical areas within the planned disturbance areas;***
- ***Vehicle speeds shall not exceed 25 miles per hour on-site;***

- ***Cross-country travel with motorized vehicles outside of the Project Site by project personnel is prohibited;***
- ***Vehicles and equipment parked shall be inspected immediately prior to being moved;***
- ***To the extent possible, new disturbances on undisturbed areas shall be scheduled when tortoises are inactive (November 1 - March 15) and after protocol surveys are completed to ensure that desert tortoise are fully avoided;***
- ***All trash and food items shall be promptly contained within closed, common raven-proofed containers;***
- ***Firearms, dogs, or other pets shall be prohibited at the work site; and***
- ***If desert tortoise are found during surveys, CalPortland shall coordinate with the U.S. Fish & Wildlife Service and CDFW to determine if avoidance and minimization measures can be applied, or if take permits are necessary; and in the interim to prohibit the proponent from entering into or disturbing new areas where evidence of desert tortoise is found without authorization from one or both of those agencies.***

60. **Mitigation Measure BIO-2: In order to comply with the Migratory Bird Treaty Act (MBTA) and Fish and Game Code and to protect potential golden eagle nesting areas and special status bat roosting habitat, the following measure is required:**

- ***New mining activities and/or the removal of any trees, shrubs, or any other potential nesting habitat shall be conducted onsite and within 500 feet of the Project within three (3) days of the start of any vegetation removal or ground-disturbing activities to ensure that no nesting birds will be disturbed during construction.***
- ***If new mining activities or ground clearing occurs in an area that has not been disturbed within 2 weeks inside the peak nesting season (between February 1 and August 31), or within 30 days of the peak nesting season, a pre-construction survey by a qualified Biologist shall be conducted within 3 days prior to construction activities to identify any active nesting locations. If the Biologist does not find any active nests, the construction work shall be allowed to proceed. The biologist conducting the clearance survey shall document a negative survey with a report indicating that no impacts to active avian nests shall occur.***
- ***If the Biologist finds an active nest within the pre-construction survey area and determines that the nest may be impacted, the Biologist shall delineate an appropriate buffer zone around the nest. The size of the buffer shall be determined by the Biologist and shall be based on the nesting species, its sensitivity to disturbance, expected types of disturbance, and location in relation to the construction activities. These buffers are typically 300 feet from the nests of non-listed species and 500 feet from the nests of raptors and listed species. Any active nests observed during the survey shall be mapped on an aerial photograph. Only construction activities (if any) that have been approved by a Biological Monitor shall take place within the buffer zone until the nest is vacated. The Biologist shall serve as a Construction Monitor when construction activities take place near active nest areas to ensure that no inadvertent impacts on these nests occur. Results of the pre-construction survey and any subsequent monitoring shall be provided to the Property Owner/Developer and the City. The monitoring report shall summarize the results of the nest monitoring, describe construction restrictions currently in place, and confirm that construction activities can proceed within the buffer area without jeopardizing the survival of the young birds.***

- ***If an active eagle nest is found, Project disturbances will not occur within 0.5 mile of the active nest site during breeding season (December 30 through July 1) or any disturbance if that action is shown to disturb the nesting eagles. The 0.5 mile no disturbance buffer will be maintained throughout the breeding season or until the young have fledged and are no longer dependent on the nest or parental care for survival.***
- ***To prevent impacts to potential sensitive bat roosting habitat within the steep terrain onsite, disturbance or removal of large boulders should be avoided.***

Prior to start of Project activities on undisturbed areas, a WEAP for desert tortoise, desert kit fox, American badger, ring-tailed cat, desert bighorn sheep and burrowing owl shall be implemented by CalPortland for all onsite employees and truck drivers.

61. **Mitigation Measure BIO-3**: ***A formal jurisdictional delineation shall be forwarded to the Corps, Regional Board and CDFW for their review, and if onsite drainages are determined to be waters of the U.S., Regional Board waters of the State and/or CDFW jurisdictional streambed, regulatory permits will need to be obtained through the Corps, Regional Board and/or CDFW prior to initiating new mining within a jurisdictional area and appropriate protective measures implemented and compensation provided. The following are general protective measures that may be required to be determined by the agencies:***

- ***Worker environmental awareness program;***
- ***Avoidance of waters of the State and jurisdictional streambeds as possible;***
- ***Demarcation of jurisdictional streambeds to prevent unnecessary impacts;***
- ***Avoiding impacts to undisturbed areas and to wildlife and sensitive species through pre-clearance surveys, establishing buffer areas, and temporary fencing;***
- ***Implementation of BMPs to prevent erosion and sediment discharge;***
- ***Invasive weed control;***
- ***Maintaining areas free of trash, debris, hazardous materials, and spills; and***
- ***Compensation as applicable to be determined which may include a combination of on-site and/or off-site compensation and/or re-habitation.***

With adherence to the regulatory permitting requirements including mitigation and compensation as applicable, the Proposed Project is not anticipated to have a significant effect on any waters of the U.S. and/or State. Therefore, less than significant impacts with mitigation are identified or anticipated.

Cultural Resources

62. **Mitigation Measure CR-1**: ***In the event that cultural resources are discovered during project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a qualified archaeologist meeting Secretary of Interior standards shall be hired to assess the find. Work on the other portions of the project outside of the buffered area may continue during this assessment period. Additionally, the Yaamava of San Manuel Nation Cultural Resources Department (YSMN) shall be contacted, as detailed within TCR-1, regarding any pre-contact and/or historic-era finds and be provided information after the archaeologist makes his/her initial assessment of the nature of the find, so as to provide Tribal input with regards to significance and treatment.***

63. **Mitigation Measure CR-2**: ***If significant pre-contact and/or historic-era cultural resources, as defined by CEQA (as amended, 2015), are discovered and avoidance cannot be ensured, the archaeologist shall develop a Monitoring and Treatment Plan, the drafts of which shall be provided to YSMN for review and comment, as detailed for TCR-1 below. The archaeologist shall monitor the remainder of the project and implement the Plan accordingly.***

64. **Mitigation Measure CR-3**: ***Should human remains, cremations, and/or funerary object be encountered during any earthmoving activities, all work shall stop immediately in the area in which the find(s) are present (suggested 100-ft radius area around the remains and project personnel will be excluded from the area and no photographs will be permitted), and the San Bernardino County Coroner will be notified. San Bernardino County and the Project Proponent shall also be informed of the discovery. The Coroner will determine if the bones are historic/archaeological or a modern legal case. The Coroner will immediately contact the Native American Heritage Commission (NAHC) in the event that remains are determined to be human and of Native American origin, in accordance with California Public Resources Code Section § 5097.98.***

All discovered human remains shall be treated with respect and dignity. California state law (California Health & Safety Code § 7050.5) and federal law and regulations ([Archaeological Resources Protection Act (ARPA) 16 USC 470 & 43 CFR 7], [Native American Graves Protection & Repatriation Act (NAGPRA) 25 USC 3001 & 43 CFR 10] and [Public Lands, Interior 43 CFR 8365.1-7]) require a defined protocol if human remains are discovered in the State of California regardless if the remains are modern or archaeological.

Noise

67. Noise Level. Should results of a noise study indicate that operations would not comply with the County noise ordinance, found in SBCC Section 83.01.080; the Planning Director may require modification of such operations.

Tribal Cultural Resources

68. **Mitigation Measure TCR-1**: ***The Yaamava of San Manuel Nation Cultural Resources Department (YSMN) shall be contacted, as detailed in CR-1, of any pre-contact and/or historic-era cultural resources discovered during project implementation and be provided information regarding the nature of the find, so as to provide Tribal input with regards to significance and treatment. Should the find be deemed significant, as defined by CEQA (as amended, 2015), a cultural resources Monitoring and Treatment Plan shall be created by the archaeologist, in coordination with YSMN, and all subsequent finds shall be subject to this Plan. This Plan shall allow for a monitor to be present that represents YSMN, should YSMN elect to place a monitor on-site, during treatment of the resource or other time period agreed to by the archaeologist, operator, and YSMN.***

69. **Mitigation Measure TCR-2**: ***Any and all archaeological/cultural documents created as a part of the project (isolate records, site records, survey reports, testing reports, etc.) shall be supplied to the applicant and Lead Agency for dissemination to YSMN. The Lead Agency and/or applicant shall, in good faith, consult with YSMN throughout the life of the project.***

Aesthetics (Scenery)

70. On-Site Lighting. The area of illumination from any on-site lighting shall comply with SBCC Section 83.07.040 Glare and Outdoor Lighting. Light pollution shall be minimized and confined within the site boundaries to limit impacts to surrounding properties. The glare from any luminous source, including on-site lighting shall not exceed one-half (0.5) foot- candle at property line. On-site lighting shall be fully shielded, diffused, or directed in a manner to avoid glare directed at adjacent properties, roadways or any light spill into any wildland areas surrounding the site that might affect nocturnal animals. No light shall project onto adjacent roadways in a manner that interferes with on-coming traffic. All lighting shall be limited to that necessary for maintenance activities, security and safety purposes. All signs proposed by this project shall only be lit by steady, stationary, shielded light directed at the sign.

71. Site Maintenance. The applicant/operator shall maintain the premises in a neat and orderly manner at all times. All refuse generated at the premises shall at all times be stored in approved containers and shall be placed in a manner so that visual or other impacts and environmental public health nuisances are minimized. All refuse not containing garbage shall be removed from the premises at least one time per week, or as often as necessary to minimize public health nuisances. Refuse containing garbage shall be removed from the premises at least two times per week, or as often as necessary to minimize public health nuisances, by a permitted hauler to an approved solid waste facility. For information, call DEHS/LEA at (800) 442-2283.

Reclamation and Revegetation

72. Reclamation Plan. Surface mining operations shall adhere to the Mining and Reclamation Plan. Any changes from the Reclamation Plan's provisions shall not be undertaken until review by the Land Use Services Department.

73. Backfilling. An open pit excavation created by surface mining activities for the production of metallic minerals shall be backfilled to achieve not less than the original surface elevation, unless the circumstances in 3704.1(h) of the State Regulations are determined by the lead agency to exist. In such case, the open pit excavation shall be backfilled in accordance with 3704.1(b) and (d) of the State Regulations to an elevation that utilizes all of the available material remaining as overburden, waste rock, and processed or treated ore.

74. Reclamation Time Schedule. Reclamation shall be initiated at the earliest possible time on those portions of the disturbed lands that will not be subject to further disturbance by the surface mining operation.

75. Reclamation and Revegetation. Reclamation and revegetation of the site shall proceed in accordance with the Mining/Reclamation Plan 23M-01.

76. Plant Seeds. The operator shall provide for the collection of seed and other propagules as needed in support of the revegetation plan. Propagules shall be collected within the Project Area to the extent possible.

77. Test Plots. Test Plots shall be developed to provide data that supports successful revegetation efforts within mined areas. Additional test plots shall be established if the initial tests, as well as

any active revegetation areas are not successful.

78. Barriers/Signage. Safety barriers and signage per MSHA requirements shall be maintained around the mined slopes.

79. Growth Medium Stockpiles. The operator shall salvage all topsoil, subsoil and growth media suitable for sustaining revegetation as separated layers from areas to be disturbed by mining operations. Stockpiled topsoil shall be identified with clearly labeled signs stating “Topsoil – Do Not Disturb” and stored separately from overburden material stockpiles and protected to preserve as much of the organic material and seeds as practicable. The locations for topsoil stockpiles are identified on the Mine Plan map.

80. Stockpile Maintenance. Stockpiles shall be maintained with temporary erosion control methods and shall be stabilized through establishment of temporary vegetative cover or other acceptable means of surface treatment for prolonged storage periods. At the time of reclamation, areas being reclaimed shall have the stockpiled growth medium and vegetation spread over them. Revegetation shall be supplemented by broadcast seeding with native and locally adapted seed and planting of established seedlings and/or shrubs in accordance with the approved Reclamation Plan.

81. Seed Types and Amounts. A seed mix is designed for the Project site to promote a plant community similar to that found in undisturbed areas. The seed mix will serve as a guideline for the revegetation plant community. Seed types and amounts will conform to the site’s Revegetation Plan. The seed mixes will be applied based on the seed mix plan cited in the Revegetation Plan.

82. Re-vegetation Annual Monitoring. The project biologist will document the progress of the revegetation effort at the mine site and submit Annual Maintenance and Monitoring reports to the County of San Bernardino as necessary.

83. Revegetation Attainment. Revegetation will be deemed successful by the County when all success criteria in the Reclamation Plan have been achieved. If these criteria have not been achieved, maintenance seeding and monitoring will continue annually until success criteria has been met.

84. Financial Assurances - Revegetation. Revegetation in arid areas is tenuous at best and, therefore, the applicant shall provide in the Financial Assurance Cost Estimate, the costs to monitor and report on revegetation, incidental disturbance and erosion control for a time period of five (5) years or unless the County deems the success criteria can be achieved in less time.

COUNTY FIRE DEPARTMENT – Community Safety Division (760) 254-5474

85. Above Ground Storage Tank: The applicant shall submit an Application for an Above Ground Storage Tank detailed plans to the San Bernardino County Fire Department for review and approval prior to any installation onsite. The required Fees shall be paid at time of plan submittal.

86. Combustible Vegetation: Combustible vegetation shall be removed as follows: a. Where the average slope of the site is less than 15% - Combustible vegetation shall be removed a minimum distance of thirty (30) feet from all structures or to the property line, whichever is less. b. Where the average slope of the site is 15% or greater - Combustible vegetation shall be removed a minimum one hundred (100) feet from all structures or to the property line, whichever is less.

87. Fire Extinguishers: Hand portable fire extinguishers are required. The location, type, and cabinet design shall be approved by the Fire Department.

88. Material Identification Placards: The applicant shall install Fire Department approved material identification placards on the outside of all buildings and/or storage tanks that store or plan to store hazardous or flammable materials in all locations deemed appropriate by the Fire Department. Additional placards shall be required inside the buildings when chemicals are segregated into separate areas. Any business with an N.F.P.A. 704 rating of 2-3-3 or above shall be required to install an approved key box vault on the premises, which shall contain business access keys and a business plan.

89. Inspection by the Fire Department: Permission to occupy or use the building (certificate of Occupancy or shell release) will not be granted until the Fire Department inspects, approves and signs off on the Building and Safety job card for "fire final". A fire inspection shall be conducted for currently in use fuel tank(s)

LAND USE SERVICES DEPARTMENT – Land Development Division – (909) 387-8311

90. Tributary Drainage. Adequate provisions should be made to intercept and conduct the tributary off site - on site drainage flows around and through the site in a manner, which will not adversely affect adjacent or downstream properties at the time the site is developed.

91. Natural Drainage. The natural drainage courses traversing the site shall not be occupied or obstructed.

92. Additional Drainage Requirements. In addition to drainage requirements stated herein, other "onsite" and/or "offsite" improvements may be required, which cannot be determined from tentative plans at this time and would have to be reviewed after more complete improvement plans and profiles have been submitted to this office.

DEPARTMENT OF PUBLIC WORKS – Surveyor's Office (909) 387-7910

93. Survey Monumentation. If any activity on this project will disturb any land survey monumentation, including but not limited to vertical control points (benchmarks), said monumentation shall be located and referenced by or under the direction of a licensed land surveyor or registered civil engineer authorized to practice land surveying prior to commencement of any activity with the potential to disturb said monumentation, and a corner record or record of survey of the references shall filed with the County Surveyor pursuant to Section 8771(b) Business and Professions Code.

94. Record of Survey. Pursuant to Sections 8762(b) and/or 8773 of the Business and Professions Code, a Record of Survey or Corner Record shall be filed under any of the following circumstances:
    a. Monuments set to mark property lines or corners;
    b. Performance of a field survey to establish property boundary lines for the purposes of construction staking, establishing setback lines, writing legal descriptions, or for boundary establishment/mapping of the subject parcel;
    c. Any other applicable circumstances pursuant to the Business and Professions Code that would necessitate filing of a Record of Survey.

PUBLIC HEALTH – Environmental Health Services (DEHS) (800) 442-2283

92. Refuse Storage and Disposal. All refuse generated at the premises shall at all times be stored in approved containers and shall be placed in a manner so that environmental public health nuisances are minimized. All refuse not containing garbage shall be removed from the premises at least 1 time per week, or as often as necessary to minimize public health nuisances. Refuse containing garbage shall be removed from the premises at least 2 times per week, or as often if necessary to minimize public health nuisances, by a permitted hauler to an approved solid waste facility in conformance with San Bernardino County Code Chapter 8, Section 33.0830 et. seq. For information, please call EHS/LEA at: 1-800-442-2283.

PRIOR TO FINAL CLOSURE
The Following Conditions Shall Be Met

LAND USE SERVICES – Planning Division (909) 387-8311

93. Equipment. At the time of termination of the operation for any reason, all equipment, structures and refuse associated with the operation shall be removed from the site, all hazards mitigated, and reclamation initiated as per the approved Mining/Reclamation Plan 21M03.

94. Access Roads. All access roads on site, which will not be retained for post-operation uses, shall be reclaimed at the conclusion of ground-disturbing activities.

95. Site Re-Contour. The applicant/operator shall re-contour the site at the conclusion of operations (slopes, stockpiles, roads, etc.) consistent with the reclamation plan.

96. Reclamation Verification. As portions of the site are reclaimed, they shall be identified on a map. The final map shall be provided to County Planning Division for review and approval.

97. Reclamation Completion. Following reclamation verification and release of Financial Assurances pursuant to CCR Section 3805.5, Planning will prepare a “Notice of Completion” on a form to be approved by the County Recorder’s Office. The operator shall pay any and all review and recording fees.

98. Wells. Upon final reclamation, evidence shall be provided that all wells if not to be used for other adjacent uses, exploration holes or test holes, as defined by DWR Bulletin 74-81 and Bulletin 74-90 or the latest revision are destroyed in accordance with DEHS regulations and in such a manner that will no longer be a hazard to the health and safety of people and wildlife.

CONCLUSION OF CONDITIONS

EXHIBIT E

Response to Comments

DESERT TORTOISE COUNCIL
3807 Sierra Highway #6-4514
Acton, CA 93510
www.deserttortoise.org
eac@deserttortoise.org

Via email only

14 September 2022

Attn: Steven Valdez, Senior Planner
County of San Bernardino
Land Use Services Department - Planning Division
385 North Arrowhead Avenue, First Floor
San Bernardino, CA 92415-0187
Steven.Valdez@lus.sbcounty.gov

RE: Bagdad Chase Gold Mine and Reclamation Plan (Project No. MRP-2021-00002)

Dear Mr. Valdez,

The Desert Tortoise Council (Council) is a non-profit organization comprised of hundreds of professionals and laypersons who share a common concern for wild desert tortoises and a commitment to advancing the public's understanding of desert tortoise species. Established in 1975 to promote conservation of tortoises in the deserts of the southwestern United States and Mexico, the Council routinely provides information and other forms of assistance to individuals, organizations, and regulatory agencies on matters potentially affecting desert tortoises within their geographic ranges.

As of June 2022, our mailing address has changed to:

Desert Tortoise Council
3807 Sierra Highway #6-4514
Acton, CA 93510

Our email address has not changed. Both addresses are provided above in our letterhead for your use when providing future correspondence to us.

We appreciate this opportunity to provide comments on the above-referenced project. Given the location of the proposed project in habitats likely occupied by Mojave desert tortoise (*Gopherus agassizii*) (synonymous with Agassiz's desert tortoise), our comments pertain to enhancing protection of this species during activities authorized by San Bernardino County Land Use Planning Department (herein, "County"). Please accept, carefully review, and include in the relevant project file the Council's following comments and attachments for the proposed project.

The Mojave desert tortoise is among the top 50 species on the list of the world's most endangered tortoises and freshwater turtles. The International Union for Conservation of Nature's (IUCN) Species Survival Commission, Tortoise and Freshwater Turtle Specialist Group, now considers the Mojave desert tortoise to be Critically Endangered (Berry et al. 2021), as it is a "species that possess an extremely high risk of extinction as a result of rapid population declines of 80 to more than 90 percent over the previous 10 years (or three generations), population size fewer than 50 individuals, other factors." It is one of three turtle and tortoise species in the United States to be critically endangered. This status, in part, prompted the Council to join Defenders of Wildlife and Desert Tortoise Preserve Committee (Desert Tortoise Council 2020) to petition the California Fish and Game Commission in March 2020 to elevate the listing of the Mojave desert tortoise from threatened to endangered in California.

The following project information is taken from the Mitigated Negative Declaration/Initial Study (MND/IS) provided at the County's website (https://lus.sbcounty.gov/planning-home/environmental/desert-region/): "The Bagdad Chase Mining Company LLC (Bagdad Chase) submitted a Reclamation Plan (Plan) for the Bagdad Chase Mine. The Bagdad Chase Mine (project or mine site) has been explored and mined intermittently since the late 1800s and is located on patented (private) lands owned by Bagdad Chase. It was a major gold source in the County of San Bernardino (County) in the period from 1903 to 1953 with an estimated 340,000 ounces of gold produced. Bagdad Chase plans on reopening the historic gold mine within the Stedman/Buckeye Mining District located about 50 miles east of Barstow and seven miles south of Ludlow and Interstate 40 (I-40). The proposed mining, processing, and exploration activities will consist of approximately 244 acres within 511.75 acres of private lands."

We note the following on page 36 of the MND/IS: "Mitigation Measure BIO-2: Desert Tortoise • A pre-construction **clearance** survey be conducted thirty (30) days prior to ground disturbing activities in undeveloped areas to confirm the absence of desert tortoise within the boundaries of the survey area. Survey transects should be **spaced at 10-meter (33-foot) intervals** throughout the undeveloped portions of the project area to provide 100 percent visual coverage and increase the likelihood of locating desert tortoise and/or sign" (bold emphasis added). Please note that there is a discrepancy between the bold phrases, "clearance" and "spaced at 10-meter (33-foot) intervals." Clearance surveys are described in Chapter 6 of the U.S. Fish and Wildlife Service (USFWS 2009), which indicates that the site is surveyed a minimum of two times at 5-meter intervals, not at 10-meter intervals for a single pass. So, please be sure the consultant performs actual clearance surveys to ascertain absence. Clearance surveys should be performed (a) to conclusively determine that no tortoise sign is found on a given site, as is the case for the current project, or (b) for the purposes of removing tortoises when they are known to occur, but only after incidental take permits have been obtained.

Several of our Board members have performed desert tortoise surveys in the immediate area and are surprised to learn that no tortoise sign was found. While working as a California Department of Fish and Wildlife (CDFW) biologist, one of our Board members found a tortoise just offsite about 10 years ago. We question the consultant's decision to not survey the disturbed areas or alongside the extensive access road. As per the aerial exhibit provided in Figure 4 on page 12 of the ELMT Consulting, Inc. (2021) biological resources report, green areas are shown as creosote bush scrub and brown areas, which were presumably not surveyed, are characterized as "disturbed." However, shrubs are clearly visible in the brown-shaded areas, and many of us have found tortoises in such areas. According to the MND/IS, active mining has not occurred since 1953, so it is entirely likely that tortoises are found in "disturbed" areas that were not surveyed. Neither the acreage of the site nor the acreage that was surveyed are given in the 2021 biological resources report, whereas the MND/IS indicates the mine footprint to be 244 acres, so we are unable to determine the full extent of the surveys.

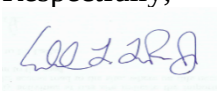
We also note on page 13 in Section 4.3.3 that the ELMT Consulting, Inc. report lists desert tortoise as one of the reptiles that occurred, and on page 19 states, "Due **to the [tortoise] sign observed during the initial field investigation** desert tortoise focused presence/absence surveys were conducted on October 29, 2020 and May 14, 2021" (bold emphasis added). It is suspicious that tortoise signs were found during initial investigations, which are not disclosed in the report, but none was found during subsequent focused protocol surveys.

We also know that the entire access road to the site runs through occupied desert tortoise habitats yet surveys were restricted to the mine area, alone. We believe there is a very high likelihood of a haul truck injuring or crushing a tortoise between the site and Interstate 40 particularly if the mine operates for 30-plus years. Absent a Biological Assessment, there is no real analysis of these types of long-term impacts, so we assert that a more rigorous analysis is warranted, that the initial study is insufficient to fully analyze impacts to tortoises, particularly along the haul road and likely within the mine footprint.

Given these observations, we strongly recommend that the County enlist an independent third party, experienced tortoise biologist or consulting firm to perform new protocol presence/absence surveys (USFWS 2019) *of the entire area*, both disturbed and not. Otherwise, the clearance surveys are likely to reveal tortoise signs at a time the proponent is ready to initiate mining, and it will likely take several years for the USFWS and CDFW to issue their incidental take permits. If any tortoise sign is found, we believe that the County should require a formal Biological Assessment and suspect that a mitigated negative declaration may no longer be applicable if take of this threatened species will occur during mining.

We appreciate this opportunity to provide comments on this project and trust they will help protect tortoises during any resulting authorized activities. Herein, we reiterate that the Desert Tortoise Council wants to be identified as an Affected Interest for this and all other projects authorized by the County that may affect desert tortoises, and that any subsequent environmental documentation for this project is provided to us at the contact information listed above. Additionally, we ask that you respond in an email that you have received this comment letter so we can be sure our concerns have been registered with the appropriate personnel and office for this project.

Respectfully,



Edward L. LaRue, Jr., M.S.
Desert Tortoise Council, Ecosystems Advisory Committee, Chairperson

cc. California State Clearinghouse, state.clearinghouse@opr.ca.gov
Heidi Calvert, CDFW Regional Manager, heidi.calvert@wildlife.ca.gov

Literature Cited

Berry, K.H., L.J. Allison, A.M. McLuckie, M. Vaughn, and R.W. Murphy. 2021. *Gopherus agassizii*. The IUCN Red List of Threatened Species 2021: e.T97246272A3150871. https://dx.doi.org/10.2305/IUCN.UK.2021-2.RLTS.T97246272A3150871.en

Desert Tortoise Council. 2020. A Petition to the State of California Fish and Game Commission to change the status of *Gopherus agassizii* from Threatened to Endangered. Formal petition submitted on 11 March 2020.

ELMT Consulting, Inc. 2021. Bagdad Chase Mines, San Bernardino County, California, Biological Resources Report. Unpublished report prepared for Bagdad Chase Mine. Santa Ana, CA.

[USFWS] U.S. Fish and Wildlife Service. 2009. Desert Tortoise (Mojave Population) Field Manual: (*Gopherus agassizii*). Region 8, Sacramento, California.

[USFWS] U.S. Fish and Wildlife Service. 2019. Preparing for any action that may occur within the range of the Mojave desert tortoise (*Gopherus agassizii*). USFWS Desert Tortoise Recovery Office. Reno, NV.

Response to Comments from the Desert Tortoise Council Letter dated September 14, 2022 on the Bagdad Chase Gold Mine and Reclamation Plan IS/MND Project No. MRP-2021-00002

Comment 1. Given the location of the proposed project in habitats likely occupied by desert tortoise the Desert Tortoise Council indicates that their comments pertain to enhancing protection of the species during activities authorized by SB County Land Use Planning Department.

Response: Comment noted.

Comment 2. Desert tortoise is among the top 50 species on the list of the world's most endangered tortoises and freshwater turtles. As a result, the Council supports a petition to CDFW to elevate the listing of tortoise from threatened species to an endangered species.

Response: The Desert Tortoise is already protected by the state and federal Endangered Species Acts, which fact was acknowledged in the MND. Accordingly, this comment does not identify any deficiency in the MND. Comment noted.

Comment 3. The Council noted that the Bagdad Chase mine is private land owned by Bagdad Chase but has not been mined since 1953. Bagdad Chase has filed an amended Reclamation Plan to continue mining on 244 acres of the 511.75-acre mine site for a 30-year period.

Response: Comment noted. Mining at this historical mine site started in the early 1900s in mainly underground workings. Open pit mining occurred in the 1970s and a Reclamation Plan was permitted by the County in 1984 for 12 years during which mainly exploration work occurred.

Comment 4. The Desert Tortoise Council letter points out that a pre-construction survey requires surveys transects spaced at 5 meters, not the 10 meters suggested in Mitigation Measure BIO-2.

Response: Mitigation Measure Bio-2 will be corrected to reflect this requirement (see revised mitigation measure at end of the responses).

Comment 5. The Council mentioned that a member of the council had seen a desert tortoise along the direct access road to the mine site approximately 10 years ago and that the disturbed areas along the edge of the access road could be occupied. The Council questioned the decision not to survey the entire length of the access road for desert tortoise.

Response: All access road traffic will be confined to the existing Bagdad Chase Road which crosses over U.S. Bureau of Land Management (BLM) land. The Bagdad Chase Road was developed and has been utilized to access the area's mines and former small mining towns since the early 1900s. Moreover, currently, the

existing road is open to the public for access to historical mine towns and workings in the area and is also utilized by communications and utility companies. The road is already subject to existing vehicle traffic; therefore, the project will not introduce traffic into previously undisturbed areas. Rather, the project will merely increase the frequency of vehicle trips along the roadway.

In order to limit potential impacts, additional language to include truck drivers training and other protection measures along the road have been added to revised Mitigation Measure BIO-2 below.

Comment 6. Active mining has not occurred on the 511.75-acre mine site since 1953, so it is likely that desert tortoise could occur within the proposed mining area. The Council noted that desert tortoise sign was found in an earlier habitat assessment of the mine site but that no desert tortoise sign was observed during the focused survey.

Response: A habitat assessment done for the entire 511.75-acre mining site noted the presence of desert tortoise sign within the larger mining area but no sign was observed within the 244-acre proposed mining area covered by the amended Reclamation Plan. Note that approximately 53 acres of this area are considered disturbed and that mining will disturb an additional 40 acres, while reclaiming a total of 111 acres. Focused surveys were recommended for the proposed new mining area since it would be mined over a 30-year period. Surveys were not recommended for the remaining 267.75 acres that will not be mined and that are not included in the amended Reclamation Plan.

Comment 7. The Council pointed out the access road to the project site have a “very high likelihood” of running through occupied desert tortoise habitat and could result in Take of desert tortoise. Such an impact, absent both a state and federal ITP, could result in delay to mining operations pending acquisition of any required permit to offset identified impacts to the species.

Response: As noted above in Response to Comment 6, all haul road traffic will be confined to the existing roads on U.S. Bureau of Land Management (BLM) land. Moreover, the existing road is already subject to existing public and utility and communications maintenance vehicle traffic; therefore, the project will not introduce traffic into previously undisturbed areas. Rather, the project will merely increase the frequency of vehicle trips along the roadway. Please refer to revised Mitigation Measure BIO-2 below.

Comment 8. Given their observations, the Council recommends the County enlist an independent third party experienced with desert tortoise to perform new protocol presence or absence surveys.

Response: As noted, the entire 511.75-acre mine site was walked as part of a habitat assessment and identified desert tortoise sign within the 267.75 acres in the outer portion of the mine site. No desert tortoise sign was found within the 244 acres within the central portion of the mine site. This area has been previously mined and extensively disturbed. However, out of an abundance of caution, a

focused desert tortoise survey was conducted within the 244 acres to document the presence or absence of desert tortoise within the area this is the subject of the amended Reclamation Plan. The 267.75 acres within the outer area of the mine site is not included in the amended Reclamation Plan and will not be mined.

Comment 9. The Council points out that if Take of a desert tortoise occurs from mining operations, an ITP will be required and will likely take several years to acquire.

Response: Comment noted. Mitigation Measure BIO-2 requires compliance with the federal and state ESAs if desert tortoise are found during clearance surveys. Restricting the amended Reclamation Plan to the area previously mined and to an area where desert tortoise was not observed should avoid impacts to the species. However, it is important to note that the Section 7 Consultation process under federal Endangered Species Act has a regulatory timeframe of 135 days, not several years. The acquisition of an ITP from CDFW would be processed concurrently with CDFW, if needed.

Comment 10. Given the Council's stated position that take of desert tortoise has a "very high likelihood" of occurring over the 30-year life of the mining operations, the County must insist that a formal Biological Assessment be prepared if any desert tortoise sign if found. They further point out that the existing Mitigated Negative Declaration may be sufficient to support the issuance of an ITP.

Response: Without evidence that desert tortoise occur within the proposed 244-acre mining area covered by the amended Reclamation Plan, an ITP will not be required. Further, avoidance and minimization measures, including pre-construction surveys, will be implemented to ensure that no impacts to the species occurs, and if desert tortoise are found onsite, then the applicant will need to comply with the federal and state ESAs. As such, the existing Mitigated Negative Declaration is sufficient to cover the approved mining operations under the amended Reclamation Plan.

Revised Mitigation Measure BIO-2: Desert Tortoise per DTC comments to be included in the project's conditions of approval:

Mitigation Measure BIO-2: Desert Tortoise

- *A pre-construction clearance survey be conducted thirty (30) days prior to ground disturbing activities in undeveloped areas to confirm the absence of desert tortoise within the boundaries of the survey area. Survey transects should be spaced at 5-meter (16-foot) intervals throughout the undeveloped portions of the project area to provide 100 percent visual coverage and increase the likelihood of locating desert tortoise and/or sign. All burrows, if present, will be thoroughly inspected for the presence of desert tortoise or evidence of recent use using non-intrusive methods (i.e., mirror, digital camera).*

- *Although not anticipated, if desert tortoise are observed on-site during the pre-construction clearance survey, coordination will need to occur with the USFWS and CDFW to determine if avoidance and minimization measures can be implemented to avoid any direct or indirect impacts to desert tortoise, or if "Take" permits will need to be prepared and approved by the USFWS and CDFW.*
- *A Workers' Education and Awareness Program (WEAP) for desert tortoise protection shall be completed by all workers/drivers/employees prior to working on-site and reviewed annually; the WEAP is included below.*
- *Disturbance shall be confined to the smallest practical areas;*
- *Vehicle speeds shall not exceed 25 miles per hour on-site and on the access road;*
- *Vehicles must remain on established roads at all times outside the project site and cross-country travel with motorized vehicles outside of the Project Site by project personnel is prohibited;*
- *Vehicles and equipment parked shall be inspected immediately prior to being moved;*
- *To the extent possible, new disturbances on undisturbed areas shall be scheduled when tortoises are inactive (November 1 – February 28);*
- *All trash and food items shall be promptly contained within closed, common raven-proofed containers; and*
- *Firearms, dogs, or other pets shall be prohibited at the work site.*

Workers Education and Awareness Program

Specific Desert Tortoise Protection Measures:

- Require driver education on desert tortoise impacts and restrictions on the access road.
- Trucks must remain on the main road at all times; no cross country travel allowed.
- Trucks shall not leave or turn off road except in existing turnouts and unless for emergency.
- Drivers shall inspect for desert tortoise under vehicles prior to moving the vehicle.
- No littering; all trash and food items shall be stored within the trucks and only disposed of within closed, common raven-proofed containers.
- Establish a speed limit of 25 mph for trucks and vehicles.
- Install speed limit and desert tortoise habitat signs along road as directed by the BLM.
- Any routine maintenance required and allowed by the BLM shall be conducted between November 1 and February 28 when desert tortoise are hibernating. If emergency repairs required during March 1 through October 31, then pre-construction tortoise survey and onsite monitoring will be required during repair work.

Desert Tortoise Education for Drivers

- Desert tortoise training will include a signed acknowledgment of training and repeated annually.

- Personnel shall be trained to watch for desert tortoise so harm desert tortoise or any other sensitive species is avoided.
- Training will not authorize personnel to handle tortoises.
- Signed acknowledgment shall include the understanding that *"desert tortoises may be encountered at any time of year, any time of day and anywhere within their range"*…
- Copies of training sign-in sheets will be available at the mine site.
- Tortoise training will include procedures to follow in the event a tortoise or suspected tortoise sign is encountered. An encounter procedures guide will be retained by each driver with all contact information, to include the Designated Biologist, BLM, SB County, US Fish & Wildlife Service and CA Dept. of Fish & Wildlife;
- Any tortoise encountered and its location to the nearest mile post will be noted on the daily log;
- The Designated biologist will have the authority to restrict activities if a tortoise or other sensitive species is encountered and could be harmed. *"Harm" is further defined as significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavior patterns including breeding, feeding or sheltering."*

EXHIBIT F

Mitigation Monitoring and Reporting Program

Mitigation Monitoring and Reporting Program
Initial Study/Mitigated Negative Declaration
The Bagdad Chase Mining Company, LLC
Bagdad Chase Mine
Reclamation Plan

Project No: MRAA-2021-00002

Prepared by:

County of San Bernardino, Land Use Services Department
385 N. Arrowhead Avenue, 1st Floor
San Bernardino, California 92415-0182
Contact: Steven Valdez, Senior Planner

DECEMBER 2022

Table of Contents

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1 Introduction

The California Environmental Quality Act (CEQA) requires that a public agency adopting a Mitigated Negative Declaration (MND) take affirmative steps to determine that approved mitigation measures are implemented after project approval. The lead or responsible agency must adopt a reporting and monitoring program for the mitigation measures incorporated into a project or included as conditions of approval. The program must be designed to ensure compliance with the MND during project implementation (California Public Resources Code, Section 21081.6(a)(1)).

This Mitigation Monitoring and Reporting Program (MMRP) will be used by the County of San Bernardino (County) to ensure compliance with adopted mitigation measures identified in the MND for the proposed Bagdad Chase Mine Reclamation Plan (County Project No. MRAA-2021-00002). The County, as the lead agency, will be responsible for ensuring that all mitigation measures are carried out. Implementation of the mitigation measures would reduce impacts to below a level of significance for biological, cultural resources, geology, and Tribal Cultural Resources (TCR).

The remainder of this MMRP consists of a table that identifies the mitigation measures by resource for each project component. Table 1 identifies the mitigation monitoring and reporting requirements, list of mitigation measures, party responsible for implementing mitigation measures, timing for implementation of mitigation measures, agency responsible for monitoring of implementation, and date of completion. With the MND and related documents, this MMRP will be kept on file at the following location:

County of San Bernardino
385 N. Arrowhead Avenue, First Floor
San Bernardino, California 92415

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2 Mitigation Monitoring and Reporting Program Table

Table 1: Mitigation Monitoring and Reporting Program

Mitigation Measures	Implementation Timing	Party Responsible for Implementation	Party Responsible For Monitoring	Date of Completion/Notes
Biological Resources				
BIO-1: Pre-construction Surveys for Nesting and Sensitive Bird Species All construction activities shall comply with the federal Migratory Bird Treaty Act of 1918 (MBTA) and California Fish and Game Code Sections 3503, 3511 and 3513. The MBTA governs the taking and killing of migratory birds, their eggs, parts, and nests and prohibits the take of any migratory bird, their eggs, parts, and nests. Compliance with the MBTA shall be accomplished by completing the following: Construction activities involving vegetation removal shall be conducted between September 1 and January 31. If construction occurs inside the peak nesting season (between February 1 and August 31), a pre-construction survey by a qualified Biologist shall be conducted within 72 hours prior to construction activities to identify any active nesting locations. If the Biologist does not find any active nests, the construction work shall be allowed to proceed. The biologist conducting the clearance survey shall document a negative survey with a report indicating that no impacts to active avian nests shall occur. If the Biologist finds an active nest within the pre-construction survey area and determines that the nest may be impacted, the Biologist shall delineate an appropriate buffer zone around the nest. The size of the buffer shall be determined by the Biologist and shall be based on the nesting species, its sensitivity to disturbance, expected types of	Prior to New Land Disturbance	Project applicant	San Bernardino County	

Mitigation Measures	Implementation Timing	Party Responsible for Implementation	Party Responsible For Monitoring	Date of Completion/Notes
disturbance, and location in relation to the construction activities. These buffers are typically 300 feet from the nests of non-listed species and 500 feet from the nests of raptors and listed species. Any active nests observed during the survey shall be mapped on an aerial photograph. Only construction activities (if any) that have been approved by a Biological Monitor shall take place within the buffer zone until the nest is vacated. The Biologist shall serve as a Construction Monitor when construction activities take place near active nest areas to ensure that no inadvertent impacts on these nests occur. Results of the pre-construction survey and any subsequent monitoring shall be provided to the Property Owner/Developer and the City. The monitoring report shall summarize the results of the nest monitoring, describe construction restrictions currently in place, and confirm that construction activities can proceed within the buffer area without jeopardizing the survival of the young birds.				
BIO-2: *Desert Tortoise* • *A pre-construction clearance survey be conducted thirty (30) days prior to ground disturbing activities in undeveloped areas to confirm the absence of desert tortoise within the boundaries of the survey area. Survey transects shall be spaced at 5-meter (16 foot) intervals throughout the undeveloped portions of the project area to provide 100 percent visual coverage and increase the likelihood of locating desert tortoise and/or sign. All burrows, if present, will be thoroughly inspected for the presence of desert tortoise or evidence of recent use using non-intrusive methods (i.e., mirror, digital camera).*	Prior to new land disturbance	Project applicant	San Bernardino County	

Mitigation Measures	Implementation Timing	Party Responsible for Implementation	Party Responsible For Monitoring	Date of Completion/Notes
• *Although not anticipated, if desert tortoise are found on-site during the pre-construction clearance survey, coordination will need to occur with the USFWS and CDFW to determine if avoidance and minimization measures can be implemented to avoid any direct or indirect impacts to desert tortoise, or if "Take" permits will need to be prepared and approved by the USFWS and CDFW.* • *A Workers' Education and Awareness Program (WEAP) for desert tortoise protection shall be completed by all workers/drivers/employees prior to working on-site and reviewed annually; the WEAP is included below;* • *Disturbance shall be confined to the smallest practical areas within the planned disturbance areas;* • *Vehicle speeds shall not exceed 25 miles per hour on-site and on the access road;* • *Vehicles must remain on established roads at all times outside the project site and cross-country travel with motorized vehicles outside of the Project Site by project personnel is prohibited;* • *Vehicles and equipment parked shall be inspected immediately prior to being moved;* • *To the extent possible, new disturbances on undisturbed areas shall be scheduled when tortoises are inactive (November 1 – February 28);* • *All trash and food items shall be promptly contained within closed, common raven-proofed containers; and* • *Firearms, dogs, or other pets shall be prohibited at the work site.*				

Mitigation Measures	Implementation Timing	Party Responsible for Implementation	Party Responsible For Monitoring	Date of Completion/Notes
BIO-3: *Jurisdictional Delineations* *A formal jurisdictional delineation shall be forwarded to the Regional Board and CDFW for their review, and if onsite drainages are determined to be Regional Board waters of the State and/or CDFW jurisdictional streambed, regulatory permits will need to be obtained through the Regional Board and/or CDFW prior to initiating new mining within a jurisdictional area and appropriate protective measures implemented and compensation provided as applicable.* *The following are general protective measures that may be required to be determined by the agencies:* • *Worker environmental awareness program;* • *Avoidance of waters of the State and jurisdictional streambeds as much as possible;* • *Demarcation of jurisdictional streambeds to prevent unnecessary impacts;* • *Avoiding impacts to undisturbed areas and to wildlife and sensitive species through pre-clearance surveys, establishing buffer areas, and temporary fencing;* • *Implementation of BMPs to prevent erosion and sediment discharge;* • *Invasive weed control;* • *Maintaining areas free of trash, debris, hazardous materials, and spills; and* • *Compensation as applicable to be determined which may include a combination of on-site and/or off-site compensation and/or re-habitation.*	Prior to new land disturbance within jurisdictional waters	Project applicant	San Bernardino County	

Mitigation Measures	Implementation Timing	Party Responsible for Implementation	Party Responsible For Monitoring	Date of Completion/Notes
Cultural Resources				
CR-1: *In the event that cultural resources are discovered during project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a qualified archaeologist meeting Secretary of Interior standards shall be hired to assess the find. Work on the other portions of the project outside of the buffered area may continue during this assessment period. Additionally, the San Manuel Band of Mission Indians Cultural Resources Department (SMBMI) shall be contacted, as detailed within TCR-1, regarding any pre-contact and/or historic-era finds and be provided information after the archaeologist makes his/her initial assessment of the nature of the find, so as to provide Tribal input with regards to significance and treatment.*	During grading and operations for life of mine	Project applicant	County of San Bernardino; and *Yaamava of San Manuel Nation Cultural Resources Department* if cultural resources uncovered	
CR-2: *If significant pre-contact and/or historic-era cultural resources, as defined by CEQA (as amended, 2015), are discovered and avoidance cannot be ensured, the archaeologist shall develop a Monitoring and Treatment Plan, the drafts of which shall be provided to SMBMI and County for review and comment, as detailed within TCR-1. The archaeologist shall monitor the remainder of the project and implement the Plan accordingly.*	During grading and operations for life of mine	Project applicant	County of San Bernardino; and *Yaamava of San Manuel Nation Cultural Resources Department* if cultural resources uncovered	
CR-3: *If human remains or funerary objects are encountered during any activities associated with the project, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease and the County Coroner shall be contacted pursuant to State Health and Safety Code §7050.5 and that code enforced for the duration of the project.* *The County of San Bernardino and the Project Proponent shall also be informed of the discovery. The Coroner will determine if the bones are historic/archaeological or a*	During grading and operations for life of mine	Project applicant	County of San Bernardino	

Mitigation Measures	Implementation Timing	Party Responsible for Implementation	Party Responsible For Monitoring	Date of Completion/Notes
modern legal case. The Coroner will immediately contact the Native American Heritage Commission (NAHC) in the event that remains are determined to be human and of Native American origin, in accordance with California Public Resources Code Section § 5097.98. *All discovered human remains shall be treated with respect and dignity. California state law (California Health & Safety Code § 7050.5) and federal law and regulations ([Archaeological Resources Protection Act (ARPA) 16 USC 470 & 43 CFR 7], [Native American Graves Protection & Repatriation Act (NAGPRA) 25 USC 3001 & 43 CFR 10] and [Public Lands, Interior 43 CFR 8365.1-7]) require a defined protocol if human remains are discovered in the State of California regardless if the remains are modern or archaeological.*				
Geology				
GEO-1: *Should fossil specimens be encountered during site preparation and excavation activities, a qualified paleontologist shall monitor and oversee excavations within these fossil-sensitive areas to ensure paleontological specimens are identified, recovered, analyzed, reported, and curated in accordance with CEQA and the San Bernardino County policies and guidelines.*	During grading and operations for life of mine	Project applicant	County of San Bernardino	
Tribal Cultural Resources				
***TCR-1*:** *The San Manuel Band of Mission Indians Cultural Resources Department (SMBMI) shall be contacted, as detailed in CR-1, of any pre-contact and/or historic-era cultural resources discovered during project implementation and be provided information regarding the nature of the find, so as to provide*	During grading and operations for life of mine	Project applicant	County of San Bernardino; and *San Manuel Band of Mission Indians Cultural Resources Department* if cultural	

Mitigation Measures	Implementation Timing	Party Responsible for Implementation	Party Responsible For Monitoring	Date of Completion/Notes
Tribal input with regards to significance and treatment. Should the find be deemed significant, as defined by CEQA (as amended, 2015), a cultural resources Monitoring and Treatment Plan shall be created by the archaeologist, in coordination with SMBMI, and all subsequent finds shall be subject to this Plan. This Plan shall allow for a monitor to be present that represents SMBMI for the remainder of the project, should SMBMI elect to place a monitor on-site.			resources uncovered	
TCR-2: *Any and all archaeological/cultural documents created as a part of the project (isolate records, site records, survey reports, testing reports, etc.) shall be supplied to the applicant and Lead Agency for dissemination to SMBMI. The Lead Agency and/or applicant shall, in good faith, consult with SMBMI throughout the life of the project.*	During grading and operations for life of mine	Project applicant	County of San Bernardino; and *San Manuel Band of Mission Indians Resources Department* if cultural resources uncovered	

EXHIBIT G

Findings

Bagdad Chase Mine

Findings: Reclamation Plan 23M-01

The findings below are for Reclamation Plan 23M-01 for the Bagdad Chase Mining Company (Project). Pursuant to Development Code Section 88.03.060(k)(2), the following findings must be made in the affirmative in order to approve the Project's mining Reclamation Plan:

1. **THE RECLAMATION PLAN COMPLIES WITH THE CALIFORNIA SURFACE MINING AND RECLAMATION ACT (SMARA) (PUBLIC RESOURCES CODE SECTIONS 2772-2773) AND ANY OTHER APPLICABLE PROVISIONS.**

   Reclamation Plan 23M-01 was reviewed and conditioned for compliance with SMARA. It has also been reviewed and accepted by the California Department of Conservation, Division of Mine Reclamation ("DMR") as in compliance with SMARA. Accordingly, this finding is met.

2. **THE RECLAMATION PLAN COMPLIES WITH APPLICABLE REQUIREMENTS OF STATE REGULATIONS (CALIFORNIA CODE OF REGULATIONS SECTIONS 3500-3505 AND 3700-3713).**

   Reclamation Plan 23M-01 complies with all applicable requirements of the State SMARA regulations. It has also been reviewed and accepted by the DMR as in compliance with SMARA regulations. Accordingly, this finding is met.

3. **THE RECLAMATION PLAN AND POTENTIAL USE OF LAND RECLAIMED IN COMPLIANCE WITH THE PLAN ARE CONSISTENT WITH DEVELOPMENT CODE CHAPTER 88.03 AND THE COUNTYWIDE PLAN AND ANY APPLICABLE RESOURCE PLAN OR ELEMENT.**

   The implementation of the Reclamation Plan 23M-01 and potential end use of lands disturbed and reclaimed in compliance with the Reclamation Plan, as conditioned, are consistent with the Development Code and Countywide Plan. No additional resource plans or elements apply.

4. **THE RECLAMATION PLAN HAS BEEN REVIEWED IN COMPLIANCE WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) AND THE COUNTY'S ENVIRONMENTAL REVIEW GUIDELINES, AND ALL SIGNIFICANT ADVERSE IMPACTS FROM RECLAMATION OF THE SURFACE MINING OPERATIONS ARE MITIGATED BELOW A LEVEL OF SIGNIFICANCE OR TO THE MAXIMUM EXTENT FEASIBLE.**

   A Mitigated Negative Declaration was prepared in compliance with CEQA and all Mitigated Measures have been incorporated into the Reclamation Plan 23M-01 as Conditions of Approval. All potentially significant adverse impacts identified in the Mitigated Negative Declaration are mitigated below a level of significance.

5. **THE LAND AND/OR RESOURCES, SUCH AS WATER, WILL BE RECLAIMED TO A CONDITION THAT IS COMPATIBLE WITH, AND BLENDS IN WITH, THE SURROUNDING NATURAL ENVIRONMENT, TOPOGRAPHY, AND OTHER RESOURCES, OR SUITABLE OFF-SITE DEVELOPMENT WILL COMPENSATE FOR RELATED DISTURBANCE TO RESOURCES VALUES.**

Affected lands will be reclaimed to a condition compatible with, and blending with, the surrounding natural environment, topography, and other open space resources as identified in Reclamation Plan 23M-01. Financial Assurances and annual mine inspections pursuant to SMARA will take place to ensure that this occurs. Groundwater resources will also be monitored and mitigated should related disturbance to this resource occurs.

6. THE RECLAMATION PLAN WILL RECLAIM THE MINED LANDS TO A USABLE CONDITION WHICH IS READILY ADAPTABLE FOR ALTERNATIVE LAND USES CONSISTENT WITH THE COUNTYWIDE PLAN AND APPLICABLE RESOURCE PLAN.

Reclamation Plan 23M-01, as conditioned, along with annual mine inspections pursuant to SMARA, will ensure reclamation of the mined lands return to a usable condition that is readily adaptable for alternative land uses consistent with Resource Conservation and Open Space.

7. A WRITTEN RESPONSE TO THE STATE DEPARTMENT OF CONSERVATION HAS BEEN PREPARED, DESCRIBING THE DISPOSITION OF MAJOR ISSUES RAISED BY THAT DEPARTMENT. WHERE THE COUNTY'S POSITION IS AT VARIANCE WITH THE RECOMMENDATIONS AND OBJECTIONS RAISED BY THE STATE DEPARTMENT OF CONSERVATION, THE RESPONSE SHALL ADDRESS, IN DETAIL, WHY SPECIFIC COMMENTS AND SUGGESTIONS WERE NOT ACCEPTED.

County staff submitted the Bagdad Chase Mine Reclamation Plan and reports to DMR on October 18, 2021. In response, DMR commented on the proposed Bagdad Chase Mine Reclamation Plan in a letter dated December 16, 2021, which identified areas considered in complete. On November 15, 2022, the County submitted an updated written response to DMR's comments pursuant to Public Resources Code (PRC) Section 2772.1(b)(5). No additional comments were received by DMR within the required review period. All major issues raised by DMR have been resolved to the satisfaction of both parties.

ENVIRONMENTAL FINDINGS:

The environmental findings, in accordance with Chapter 85.03.040 of the Development Code, are as follows:

Pursuant to provisions of the California Environmental Quality Act (CEQA) and the San Bernardino County Environmental Review guidelines, the above-referenced Project has been determined that it will not have a significant adverse impact on the environment with the implementation of all the required mitigation measures. A Mitigated Negative Declaration (MND) is adopted, and a Notice of Determination will be filed with the San Bernardino County Clerk of the Board of Supervisors. The MND represents the independent judgment and analysis of the County acting as lead agency for the Project.

EXHIBIT H

Notice of Determination

Notice of Determination

To:

☒ Office of Planning and Research

U.S. Mail: P.O. Box 3044, Sacramento, CA 95812-3044

Street Address: 1400 Tenth St., Rm 113, Sacramento, CA 95814

☒ Clerk of the Board
County of: San Bernardino
Address: 385 North Arrowhead Avenue, Second Floor
San Bernardino, CA 92415-0130

From:

Public Agency: San Bernardino County, LUSD
Address: 385 North Arrowhead Ave, First Floor San Bernardino, CA 92415-0187
Contact: Steven Valdez
Phone: 909-387-4421

Lead Agency (if different from above):

Address:

Contact:
Phone:

SUBJECT: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

State Clearinghouse Number (if submitted to State Clearinghouse): 22022080607

Project Title: Bagdad Chase Gold Mining & Reclamation Plan

Project Applicant: The Bagdad Chase Mining Company

Project Location (include county):

Project Description: A PROPOSED MINING AND RECLAMATION PLAN FOR THE VESTED AND HISTORIC BAGDAD CHASE GOLD MINE, CONSISTING OF EXTRACTION OF PRECIOUS METALS ORE AND AGGREGATE MATERIALS FOR A PERIOD OF 30 YEARS, INCLUDING THE APPROVAL OF A WATER SUPPLY ASSESMENT.

This is to advise that the San Bernardino County Planning Commission has approved the above (☒ Lead Agency or ☐ Responsible Agency)

described project on April 6, 2023 and has made the following determinations regarding the above (date)
described project.

1. The project [☐ will ☒ will not] have a significant effect on the environment.
2. ☐ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
   ☒ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures [☒ were ☐ were not] made a condition of the approval of the project.
4. A mitigation reporting or monitoring plan [☒ was ☐ was not] adopted for this project.
5. A statement of Overriding Considerations [☐ was ☒ was not] adopted for this project.
6. Findings [☒ were ☐ were not] made pursuant to the provisions of CEQA.

This is to certify that the final and record of project approval are the Mitigated Negative Declaration are available to the General Public at: 385 N. Arrowhead Ave., San Bernardino, CA 92415

Signature (Public Agency): Steven Valdez Title: Planning Manager

Date: Date Received for filing at OPR:

Authority cited: Sections 21083, Public Resources Code.
Reference Section 21000-21174, Public Resources Code. Revised 2011